—THE—

Therapeutic Gazette

WHOLE SERIES, VOL. XXIX. DETROIT, MICH., MARCH 15, 1905. THIRD SERIES, VOL. XXI, No. 3.

CONTENTS.

Original Communications.

A Case of Hour-glass Stomach the Result of an Ulcer on the Lesser Curvature which Produced a Septum of the Anterior Wall of the Stomach; Anterior Gastrogastrostomy; Recovery; Cure. By W. W. Keen, M.D., LL.D 145
The Limitations and Possibilities of Electricity in the Treatment of Diseases of Women. By B. C. Hirst, M.D..... 148
Mesotan in the Treatment of Rheumatism and Allied States. By Major Charles F. Kieffer..... 150
The Treatment of Anterior Gonorrhea. By S. G. Brown, M.D..... 159
The Rational Treatment of Typhoid Fever. By W. R. Lastrapes..... 159

Leading Articles.

Recent Investigations which Govern the Internal Use of Alkalies and Acids..... 163
Alcohol as a Food 164
The Efficient Dose of Diphtheria Antitoxin 164
The Use of Heat in the Treatment of Nervous Excitation and Spasm 165
Urine Segregation..... 166
A Contribution to the Serum Therapy of Syphilis..... 166

Reports on Therapeutic Progress.

Hydrastis—Some of its Therapeutic Uses..... 167
Poisoning by Wood Alcohol..... 168
Ethyl Chloride as an Anesthetic in General Practice 169
The Treatment of Eclampsia..... 171
Diseases of the Skin Connected with Errors of Metabolism..... 173
Infantile Dysentery..... 173
Fatty Diet and Acetonuria..... 174
The "Yolk Cure" in the Treatment of the Underfed..... 175
X-ray Therapeutics..... 176
The Treatment of the Muscular, Hemic, and Mechanical Factors in Heart Disease..... 177
Trachoma 178
The Treatment of Parenchymatous Nephritis..... 178
The Treatment of Enteric Fever..... 179
Clinical Observations on the Anesthetic Effects of Methyl Oxide, Ethyl Chloride, and the So-called "Somnoform" 181
Foreign Bodies in Eyes of Children.. 181
Concerning Acetanilid..... 183
Should Pulmonary Tuberculosis be Treated at Home?..... 184
Hypnotic Remedies in Mental Disease..... 186
The Relative Value of the Means and Methods Employed in Accouchement Forcé..... 188
Serum Therapy in Scarlet Fever..... 189
Problems Relating to Simple Ulcer of the Stomach..... 189
Medical Treatment of Gastric Ulcer 190
The Management of Summer Diarrhea..... 192
Some Unsettled and Important Problems in the Treatment of Acute Lobar Pneumonia..... 193
Menstrual Pains of Virgins—Treatment 194
Warts and Moles—Their Tendency to Become Malignant..... 194
Earache..... 195
Lingual Goitre..... 196
Surgical Treatment of Acute Intestinal Obstruction..... 196
Chronic Non-suppurative Otitis Media—Treatment..... 197
Fracture of the Elbow in Children —Treatment 198
Cancer Facts and Cancer Fallacies.. 199
Decapsulation of the Kidneys..... 199
Mortality from Puerperal Sepsis..... 199
Red Light Treatment of Smallpox.. 200
Seminal Vesiculotomy..... 200
Bunions and Hallux Valgus—Surgical Treatment..... 200
Nerve Blocking to Prevent Amputation Shock..... 201
Wounds of the Heart..... 201
Secondary Abdominal Section..... 203
Exophthalmic Goitre—Specific Treatment 204
Diffuse Dilatation of the Esophagus Due to Cardiospasm 204
Chronic Proctitis and Sigmoiditis... 205
The Value of Leucocytosis in the Diagnosis of Intra-abdominal Suppuration 206
The Use of Chloride of Ethyl in Obstetrics..... 206
Operative Removal of Stones in the Common Bile-duct..... 206
Fractures Treated by Temporary Nailing..... 207
Operative Treatment of Prolapse of the Rectum..... 207
Stab Wound of the Heart..... 208
Tonsillotomy—Hemorrhage Following 208
Syringomyelia—Alterations in Bones and Joints..... 209
Diabetic Gangrene of Extremities. 209
Treatment of Freezing by Superheated Dry Air..... 210
Varicose Veins—Surgical Treatment 210
Infantile Syphilis..... 211
Collargolum Enemata..... 211
Cleidotomy..... 212
Intravesical Hernia..... 212
Implantation of Silver Filigree for the Cure of Large Ventral Hernia 212
Intestinal Obstructions Following Appendiceal Operations..... 213
Tubercular Ulcers and Tubercular Lymphangitis of the Upper Extremities 213

Correspondence.

London Letter 214
The Septum Nasi and Asthma..... 216

Original Communications.

A CASE OF HOUR-GLASS STOMACH THE RESULT OF AN ULCER ON THE LESSER CURVATURE WHICH PRODUCED A SEPTUM OF THE ANTERIOR WALL OF THE STOMACH; ANTERIOR GASTRO-GASTROSTOMY; RECOVERY; CURE.[1]

BY W. W. KEEN, M.D., LL.D.,

Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia.

The following case I think worth reporting on account of its cause, the rather unusual situation of the gastric fold dividing the stomach into two pouches, and the consequent unusual site of a gastrogastrostomy, as well as the very satisfactory result.

Chas. T., aged twenty-six, weight 144 pounds, was admitted to the Jefferson Medical College Hospital September 22, 1904, under the care of Dr. S. Solis Cohen, who has kindly furnished me with the following history: "His father died suddenly of an unknown cause; his mother and two sisters are living and well. He had measles, pneumonia, and whooping-cough while a student in Girard College (for orphans). He was in good health until five years ago, when, at the age of twenty-one, after some gastric uneasiness, he suddenly vomited a large amount of blood, which he persists in describing as dark-colored. He has used liquor, but never to excess, and for two months preceding his admission to the

[1]Read at the Pan-American Medical Congress, Panama, January, 1905.

hospital not at all. He has, however, smoked almost all the time. He admits having had a chancre two years ago, but he has observed no secondary symptoms.

"He dates his present illness from the time when he went to work on a dairy farm, about a week before his admission. He attributed it to "catching cold," as he was compelled to work in a room where the water was flowing across the floor all the time, and his feet, therefore, were constantly wet.

"The chief complaint is of pain at the pit of the stomach. He is able to place the tips of two fingers on the exact spot. Upon eating the pain is relieved for a short time, but soon recurs. It is so severe as to disable him from all occupations and to require the use of morphine. There is no nausea or vomiting. He asserts that he has passed a small amount of bright blood by the rectum. This may have come from some small hemorrhoids which are found to be present. There is constipation. Appetite is much impaired, but there is a craving for sweets. There has been but slight loss in weight.

"On examination the viscera of the chest are normal; the liver dulness is slightly increased downward and to the left; there is marked rigidity of the upper portion of the left rectus muscle, especially over an area about 7 centimeters in length, and the width of the muscle, corresponding pretty closely with its second segment, and a small mass can be obscurely felt in this region. On percussion over this area typmany is elicited at first, but on continuing the percussion the sound changes to dulness, and then gradually returns to a tympanitic note. Fluorescent transillumination of the stomach (after the method of Kemp by introducing the gastrodiaphane after the patient has swallowed a pint or more of alkalinized water containing ⅛ to ¼ grain fluorescin in solution) showed but one small circle of illumination about 4 centimeters in diameter near the cardiac end of the stomach, at the junction of the eighth rib with its cartilage, 11 centimeters to the left of the middle line. There was no difficulty in continuing the insertion of the tube for its full length; but the light disappeared, to reappear in the same region as the tube was withdrawn. The observation was confirmed by a number of repetitions of the maneuver.

"Examination of the gastric contents showed them to be acid, that they were free from decomposition, that free HCl was present and lactic acid absent; total acidity, 0.2784.

"Blood examination September 24, 1904: Erythrocytes, 4,650,000; leucocytes, 4400; hemoglobin, 90 per cent; color index, 0.9.

"Differential count of leucocytes: Polynuclears, 68 per cent; small lymphocytes, 22 per cent; large lymphocytes, 8 per cent; eosinophiles, 2 per cent; iodophilia, negative.

"Urine: clear, very light straw color, specific gravity 1.002, reaction slightly acid, albumin absent, sugar absent, urea 0.4 per cent. Under the microscope no crystals are found, amorphous urates are present, as are also a few squamous epithelial cells and a few leucocytes; blood is absent, tube casts are absent. On September 28, a second examination of the urine showed it to be turbid, light straw, 1.010, alkaline, containing neither albumin nor sugar; urea was 2.2 per cent; triple phosphate crystals, amorphous urates and phosphates, and a few leucocytes were present; there were no epithelial cells, no blood, no tube casts."

Both to Dr. Cohen and myself the diagnosis was obscure. That there was some local tumor mass there was no doubt, but precisely its connections and its character were quite uncertain. Why the gastrodiaphane only illuminated a single point to the left, all the rest being dark, was not obvious. At the patient's age carcinoma of the stomach would be especially rare. That probably he had had an ulcer, the hematemesis five years before seemed to show pretty clearly. He had never vomited any blood since then. An hour-glass stomach never occurred to either of us, and he was not examined with a special view to its possibility. While, therefore, it was evident that surgical procedure was necessary, it was undertaken rather as an exploration than with a definite idea of what was to be found.

Operation September 28, 1904. I made an incision 2 centimeters to the left of the middle line. The pylorus and the upper duodenum were drawn out with moderate ease. Four centimeters from the pylorus was a scar on the outer wall of the duodenum without much thickening of the duodenal wall. Possibly this was the scar

of a former ulcer at this point. On attempting to draw the stomach out through the incision, I found that it was very tightly adherent, the adhesions running upward and backward from the lesser curvature. It was with great difficulty that I could draw out any considerable portion of the stomach, and I was not able to reach the left portion of the lesser curvature at all. I almost, therefore, entirely missed discovering the actual condition of a bifid or hour-glass stomach. I then liberated the adhesions which passed from the lesser curvature of the stomach about its middle upward and to the left. This finally enabled me to draw out the entire stomach, when the hour-glass condition was immediately discovered. There was a hard mass at the middle of the lesser curvature of the stomach. This had made so much traction on the anterior wall as to throw the anterior wall of the stomach into a very deep furrow, or fold, into which I could pass my fingers nearly to the knuckles (Figs. 1 and 2). This furrow separated the stomach into two portions, of which the pyloric portion was somewhat the larger. After sewing together the adjacent walls of the furrow I made an incision on the anterior wall of the stomach on each side of the deep sulcus between the two pouches. These two incisions extended upward as near to the lesser curvature and downward as near to the lesser curvature as possible without interfering with the large vessels, say within a little over one centimeter of each curvature. None of the tissue of the wall of the stomach was removed. The two proximal and the two distal margins of the two openings were then united to each other by suture (Fig. 3), with a reënforcing seroserous suture.

Only once did his temperature go above 100°, and then only to 100.4° F. He made a perfectly uninterrupted recovery, and was discharged from the hospital October 20 in excellent condition. He was able to eat everything with relish and comfort, and in the twenty-two days since the operation had gained 9 pounds.

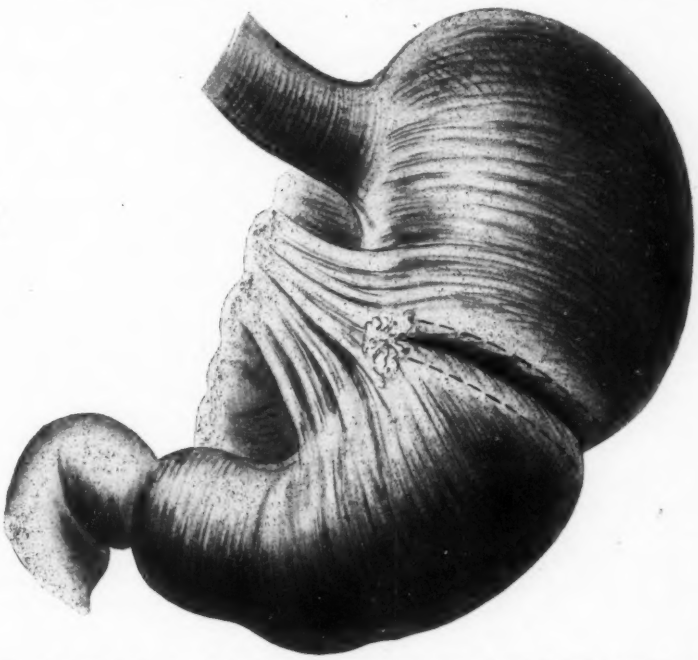


FIG. 1.—Shows the site of the ulcer, the adhesions, and the furrow in the anterior wall of the stomach. The dotted line shows the site of the two incisions made after the adjacent margins of the furrow were sutured together.

Remarks.—Hour-glass stomach, though not very rare, is sufficiently uncommon to make it desirable that all cases should be reported. In this particular case the manner in which the stomach was divided into two compartments was, I think, very unusual. The ulcer, which manifested its presence five years before by a serious

hemorrhage, was situated near the middle of the lesser curvature, a little more anteriorly than posteriorly. The scar of such ulcers after healing of course always contracts; but in addition to this, in this particular case there were very extensive adhesions upward and backward from the site of the ulcer, which fixed the stomach to the posterior wall of the abdomen. These adhesions assisted in producing such a deep inversion of the anterior wall of the stomach as to form a septum which extended from the lesser to the greater

FIG. 2.—Diagram to show the furrow in a horizontal section of the stomach.

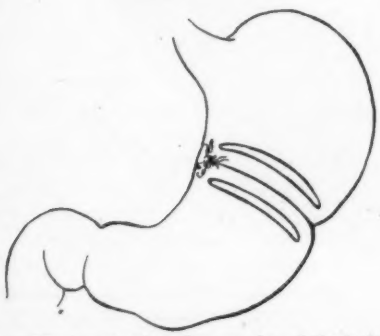


FIG. 3.—The two openings from gaping of the incisions. The two proximal and the two distal margins were sutured together.

curvature, and reached nearly if not indeed quite to the posterior wall of the stomach. The posterior wall of the stomach was not involved. So tense and firm were these adhesions that I nearly missed discovering the real cause of the trouble. It was only when I had divided the adhesions so as to bring the entire stomach into view that I found the real cause of the trouble. An anterior gastrogastrostomy was evidently the best means by which to relieve the trouble. I thought of a gastroplasty, but the fold was so deep and so extensive that I judged that gastrogastrostomy was the more desirable operation.

As to diagnosis, neither Dr. Cohen nor I suspected an hour-glass stomach. We knew of the probable existence of an old ulcer, and therefore of adhesions, but in spite of the patient's youth we had a fear of a possible carcinomatous change engrafted upon the ulcer, especially as there was a tumor obscurely perceptible.

Inasmuch as I did not suspect an hour-glass stomach, I did not test the patient by the now well known means for determining such a possibility. I think it not improbable that a correct diagnosis might have been reached had I done so. One lesson which has been forced upon me by this case is that in every case, especially in younger people in whom there is good reason to suspect an old ulcer, the possibility of an hour-glass stomach should always be considered, and all the measures which may assist in making a diagnosis should be utilized. While operation will always enable us to make the diagnosis, it is in my opinion discreditable to surgery that we should not in every possible case make a correct diagnosis before rather than during and by means of the operation.

THE LIMITATIONS AND POSSIBILITIES OF ELECTRICITY IN THE TREATMENT OF DISEASES OF WOMEN.[1]

BY B. C. HIRST, M.D.,
Professor of Obstetrics in the Medical Department of the University of Pennsylvania.

The title of this small contribution to the transactions of the society is, I fear, too pretentious. It implies a study of *x*-rays, the ultraviolet rays, and high-frequency currents, with which I have no personal experience, and which will be employed only by specialists in electrotherapeutics.

My object is simply to call attention to the use of galvanism and faradism in a few of the diseases of women, in which more can be accomplished by this means than by any other treatment.

It is not strange that the present-day

[1]Read before the Philadelphia County Medical Society, Jan. 25, 1905.

gynecologist looks askance at electricity. Those of us who have been long enough in practice remember only too well the disappointment which followed a trial of Apostoli's methods, the failure of attempts to cure all sorts of pelvic inflammatory conditions, and the futile effort to destroy the embryo in extra-uterine pregnancy by electrical currents. But the swing of the pendulum, as often happens, has gone a little too far. Many of us are neglecting, I think, a most useful treatment in one or two affections which are amenable to nothing else.

In the excellent monograph on Fibromyomata by Bishop, published two or three years ago, there is a fair and convincing section on electricity as a hemostatic agent in the treatment of fibroids in which operation is contraindicated or is not really necessary. It is all the more convincing because Bishop is an enthusiastic advocate of operative treatment, and was one of the first to urge an extension of the indications for it. I had tried electricity myself twelve or fifteen years before, and was one of a committee appointed by this society years ago to investigate the results obtained. I was disappointed in it and gave it up.

After reading Bishop's book it appeared to me that such an uncompromising attitude was prejudiced, and as other cases than fibroids occasionally applied for treatment, in which electrical stimulation was obviously the only means of relief, I installed in my office again a full electrical equipment, including electrodes that could be sterilized as easily as any other surgical instrument. During the last two and a half years this equipment has demonstrated its utility in the following limited number of cases: As a hemostatic in bleeding fibroids; as a stimulant in amenorrhea and sterility, the result of imperfect development or atrophy of the uterus; and to restore tone to a sphincter ani that had been severed, had been unrepaired for many years, and though successfully repaired, remains paretic.

I am not yet prepared to admit that every fibroid of the uterus must be removed. In 195 such cases subjected to surgical treatment under my care there were only seven in which it could be positively stated that death must have ensued without operation—three sarcomatous and four necrotic degenerations. In addition there was one case of adenocarcinoma of the endometrium, but the association was purely accidental, and there was no causative relation between the two. There were naturally many other complications in my cases, more or less serious, but in none except those mentioned could it be truthfully stated that the issue would inevitably have been fatal without surgical intervention. From personal experience therefore, and from a careful study of others' records, it appears that the conscientious surgeon must frequently see cases of comparatively small fibroids, with no other symptom than metrorrhagia, in which an operation is not required. In these cases, if there is no continued growth, no sign of malignancy, no complication such as cystic degeneration or inflammation of the appendages, I doubt if there is a more reliable hemostatic than repeated applications of a galvanic current 40 to 60 milliamperes, with the positive pole *in utero*. About twenty applications are needed for fifteen to twenty minutes every other day. As an illustrative case: Mrs. L., aged thirty-nine, had had three severe hemorrhages several months apart in the course of a year. The last one had been so serious that she was exceedingly anemic. Her hemoglobin percentage was in the neighborhood of 10, and her heart was feeble and irregular. A gynecologist, called in at this time, urged an immediate operation, stating that unless it was performed by a certain date (on which he was to sail for Europe) she could not survive the summer. This advice was rejected by the family physician, the patient and her family, who felt that an abdominal hysterectomy, in view of the patient's condition, would pretty certainly prove fatal. The following autumn I began treatment with electricity after finding a fibroid no larger than an orange, with no complications and no other symptoms except the metrorrhagia. Twenty-one treatments were given. The patient has had no hemorrhages in the last fifteen months and feels perfectly well. It is unlikely that her small fibroid will cause any more trouble. If an operation is indicated at any time in the future she will return to me for it.

For an atrophied or ill developed uterus I can conceive of no other treatment so rational to stimulate and develop the pelvic organs as faradism and the negative pole

of a galvanic current in the uterine cavity. Two cases may serve to illustrate the possibilities of this treatment:

Mrs. W., married seventeen months; has not been pregnant; has not menstruated at all for a year. Examination showed an ill developed or atrophied uterus. After four treatments a menstrual flow appeared, profuse, and lasting ten days. Conception occurred shortly afterward, and she has recently been delivered of a healthy child at term.

Mrs. B. has had two children; after the second, four years ago, she developed an extreme degree of lactation atrophy. When the baby was weaned, menstruation returned, but was scanty, not lasting a day. Intense headaches appeared with the periods, and grew worse as the menstrual flow diminished in amount and duration. Medicinal and hygienic treatment was recommended, but failed. After six weeks' treatment with electricity a flow was established, normal in quantity and duration, the headaches were relieved, the general health improved, and the patient conceived again six months later. She is now five months pregnant.

There is no necessity for insisting upon electricity as the only means to strengthen a weak sphincter muscle. There is no other treatment to recommend. If the operation for the repair of a complete laceration of the perineum is properly performed in the first place, there is very seldom need for further treatment of any kind. Of late years I have operated on twelve to twenty such cases annually—in half the cases after some one else had failed—and in only two instances has electrical stimulation been indicated: in one woman operated on three times before without success in a period of fourteen years, and in another with two unsuccessful attempts in ten years. In both cases the contractile power of the sphincter was restored.

There is one other indication for electrical stimulation of the uterus, I believe, in the dysmenorrhea of young women with ill developed uteri, after dilatation and curettage have failed to give relief. For the last eighteen months I have used Schatz's metranoicter in such cases in addition to forced dilatation with branched dilators, and my proportion of failures is less than it was. In my last thirty cases there are only two symptomatic failures, both in young women of a neurotic type with ill developed wombs. I believe that electrical stimulation might effect a cure in these women, but there are two objections to its use: the propriety of any local treatment in young unmarried girls is questionable, and there is danger of breeding sexual hypochondriasis in a neurotic woman by long-continued local treatment. In the very few cases in which such treatment might be justifiable, it would be more likely to afford relief, I think, than any other remedy. The typical case for this treatment would be the married woman with dysmenorrhea and sterility, without tubal or appendiceal disease, who is not relieved by dilatation with branched dilators and the metranoicter. Since using the latter instrument, however, I have not yet had a failure in such cases.

MESOTAN IN THE TREATMENT OF RHEUMATISM AND ALLIED STATES.[1]

By Major Charles F. Kieffer,
Surgeon, United States Army, Fort D. A. Russell, Wyoming.

In 1876, shortly after the discovery of the specific effects of salicylic acid in rheumatism, Drasche, of Vienna, showed that absorption took place after external applications of watery or alcoholic solutions of these drugs, and that they appeared in the circulation and excretions as salicylate of sodium.

In 1883 Unna demonstrated the absorption of salicylic acid through the intact skin. In 1884 Hasenfeld demonstrated that sufficient of the drug could be introduced in this way to cause tinnitus and other toxic symptoms of salicylic acid poisoning.

In 1893 Bourget recommended its local use in the treatment of rheumatism, in the form of an ointment with lanolin, oil of turpentine, and lard. Von Ziemssen, a little while later, recommended an ointment very similar to that of Bourget. In 1898 Sterling reports sweating, tinnitus, and digestive disturbances from the use of these ointments.

Mesotan is one of the newer synthetic compounds introduced for the local treatment of rheumatism. The local treat-

[1]Special report to the Surgeon-General, United States Army, and published with his authority.

ment, as outlined above, never enjoyed very much popularity, although the oil of gaultheria, particularly in this country, has been a favorite component of liniments and local applications for the relief of joint pains. But the odor of this substance is very unpleasant to most people, and in a few cases causes annoying headaches. Mesotan was evolved in the search for a salicylic acid ester which should not have the powerful and unpleasant odor of gaultheria (methyl-ester of salicylic acid). The attempt was made to replace the methyl ester by the ester of the higher homologous alcohols. Because, as Dreser remarks, the higher one of these homologues boils, the lower is the pressure evolved at ordinary temperatures, and, other things being equal, the less pronounced is its odor. This is the reason why the odor of the amyl ester is noticeably weaker than that of the methyl ester.

Mesotan is the methyl-oxy-methyl ester of salicylic acid. It is a clear, yellowish, oily liquid, with a pronounced ethereal but not unpleasant odor. It is formed by the action of formaldehyde, methyl alcohol, and hydrochloric acid on sodium salicylate. It contains, approximately, 71 per cent of salicylic acid, and its chemical formula may be expressed as follows:

$$C_6H_4 < \begin{matrix} OH \\ CO_2—CH_2—O—CH_3. \end{matrix}$$

It is sparingly soluble in water, but more freely in oils. Dreser has shown that if 150 cubic centimeters of water saturated with oil of gaultheria be shaken up with 5 cubic centimeters of oil, the oil absorbs 69/70 of the methyl ester from the water. Mesotan, however, has not so marked an affinity for oils. The methyl ester will be taken up in oils 2070 times as much as in water; mesotan, on the other hand, only 56 times as much or 1/37 of the affinity for fats as the oil of gaultheria. He argues from this that mesotan should have a distinct advantage, clinically, in cases where the skin contains a heavy layer of fat; since the body fats will not absorb it to the extent that they would the oil of gaultheria, but would release it to the deeper tissues, the muscles, and fasciæ. Mesotan is saponified readily by weak alkalies.

Mesotan depends for its action on the absorption of the drug through the skin. It has been shown that even though it exerts a general effect, it has a still more marked local action. To produce its analgesic effect on a painful joint or muscle it is sufficient to apply the medicament to the overlying skin and cover it lightly with linen or muslin as a protective. It is not necessary, as at first advised, to cover the parts with parchment or with oiled paper, to prevent evaporation and to insure the absorption of the drug. Ruhemann in one of his earlier communications advised that it should be vigorously rubbed in, but the studies I have made on the absorption of the drug show no increase either in the rapidity or the amount of the drug absorbed whether it be rubbed in vigorously or whether it be applied with a brush. More than this, vigorous rubbing predisposes to the production of a local dermatitis which may be very annoying and troublesome, and of which I shall have more to say further on. In order to obviate, in a measure, the tendency to skin symptoms, it has been advised that the mesotan be used in a mixture with equal parts of olive oil. This preparation is efficient and tends to economy in the use of the remedy. In my observations it was found that even greater dilutions were effective, and sometimes desirable. Thus, a 20-per-cent dilution was found to be effective in relieving pain, and was almost as quickly absorbed as the more concentrated solutions. To some people the odor of the olive-oil mixture is unpleasant. I think the mixture made with cottonseed oil is less objectionable. To correct the unpleasant odor of the olive-oil mixture it is commonly advised to add a few drops of the oil of lavender. Benzoinated lard may be used as a substitute for olive oil, and does not interfere with the action of the mesotan. Reichmann advises castor oil, but the odor of this mixture is more objectionable to most people than the olive-oil mixture. Glycerin has also been suggested, but it causes not only a severe subjective sense of burning, but sometimes free vesication. For sharp nerve or inflammatory pains I prefer the pure drug applied over the painful area. For dull, aching pains, as in subacute muscular or aponeurotic rheumatism, I believe the weaker dilutions are better, and the effect is slightly prolonged. In usual cases the drug should be used two or three times daily.

That mesotan, so applied, is rapidly absorbed can be demonstrated by the early appearance of a salicylic reaction in the urine. Experimental researches with guinea-pigs have shown that when this ester is placed on the skin of the shaven abdomen, a reaction is observed in the urine in one hour. It is equally, or more, rapid when placed on the skin of man. Reichmann has found distinct evidence of salicylates in the urine at the end of half an hour. Herschman found the reaction in the urine in from forty to fifty minutes.

In these studies particular attention was paid to the question of the time of appearance of the reaction in the urine, and some rather interesting observations were made. A distinct reaction was obtained in every case in from thirty to sixty minutes. It was found that the rate of absorption varied not only in different individuals, but also in the same person, when applied to different parts of the body. In the fine-skinned, with little subcutaneous fat, the absorption was rapid and the reaction appeared early. In men with heavy, greasy skin, with marked cutaneous and subcutaneous fat, the reaction was always delayed. I believe that, to some extent, the remedy is sequestrated for a time by the peripheral body fat. The reaction appeared earlier when the drug was applied to the flexor surfaces of the limbs than when applied to the extensor surfaces. It appeared earlier when applied to the trunk than when applied to the extremities, and earlier when applied to the arms than to the legs. In carefully controlled observations it was found that the length of time to the appearance of the reaction was about twice as long as when the salicylates are taken by the mouth. The average length of time for the reaction to appear when one gramme of sodium salicylate was taken by the mouth was twenty minutes. In the same men the average time for the appearance of the reaction after mesotan was applied to the skin of the trunk was forty minutes.

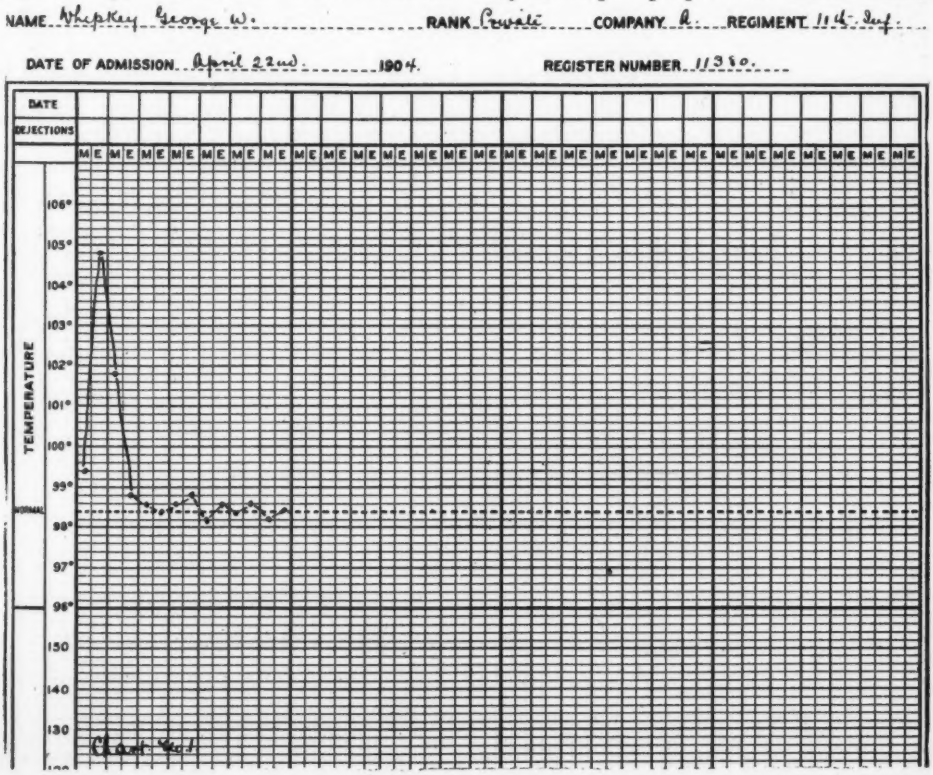
The test used to determine the presence of a salicylic compound in the urine was ferric chloride. Five drops of a solution of ferric chloride added to a small amount of urine containing salicylic acid, or one of its compounds, produces a deep red color. With ten drops more of the test solution, in the presence of pronounced quantities of salicylic acid a deep purple color is produced. There was no attempt to make quantitative analyses, excepting that rough tintometric estimations were made.

No untoward effects were observed from the use of the drug. Although systemically absorbed in large quantities, it produces no effect on the stomach or digestion. In a few susceptible individuals slight head noises and ringing of the ears were complained of. The first effect of the application of mesotan to the skin is a slight feeling of warmth and tingling. In a few cases this amounted to a burning sensation quite like that produced by a sharp mustard plaster. Vigorous rubbing in of the mesotan accentuated the burning sensation, particularly when applied to the inner sides of the arms and thighs or the abdomen and groins. The feeling of warmth and tingling was succeeded by a pleasant glow in the parts and the rather rapid disappearance of all pain.

Three trivial skin eruptions, or more properly dermatitis, were observed, and one case with a more pronounced vesicular eruption, following the use of the drug. The very nature of this remedy and the mode of its absorption through the skin would lead one to expect occasional skin irritations from its use in susceptible persons. The skin eruptions observed range from an insignificant vesication to such cases as are reported by Ruhemann, in which the lesions resembled a vesicular eczema and were quite severe. In nearly all of the cases reported the eruption was local and confined to the area of the application of the drug. In a few cases, notably two reported by Pollitzer, the eruption was general; tending to show that it was dependent on the drug in the general circulation. In one case a 50-percent mixture was applied to the elbow; "a vesicular crusted dermatitis" developed, which extended over both arms, the abdomen, and both thighs. In the second case the drug was applied full strength, and a general vesicular eruption followed. Kaiser reports, from Naunyn's clinic, three cases of severe bullous dermatitis. Frankenburger reports one severe case with superficial gangrene. Korach reports a case of general dermatitis with numerous miliary vesicles filled with a watery fluid. This case required two months to heal, and the patient was greatly tormented by the excessive itching. In the cases

under my care no instance of a generalized exanthem was observed. As already stated, three localized eruptions were seen which resembled a mild vesication by mustard. In one case where the drug had been applied full strength, frequently repeated, to the inner side of the thigh for the relief of severe pain in the distribution of the crural nerve, a more marked eruption was observed. It healed in four or five days, and was followed by an itching exfoliation of the skin. All of these eruptions suggested the skin irritations produced by iodoform in susceptible persons. Pollitzer considers them to be analogous to the eruptions produced by this drug.

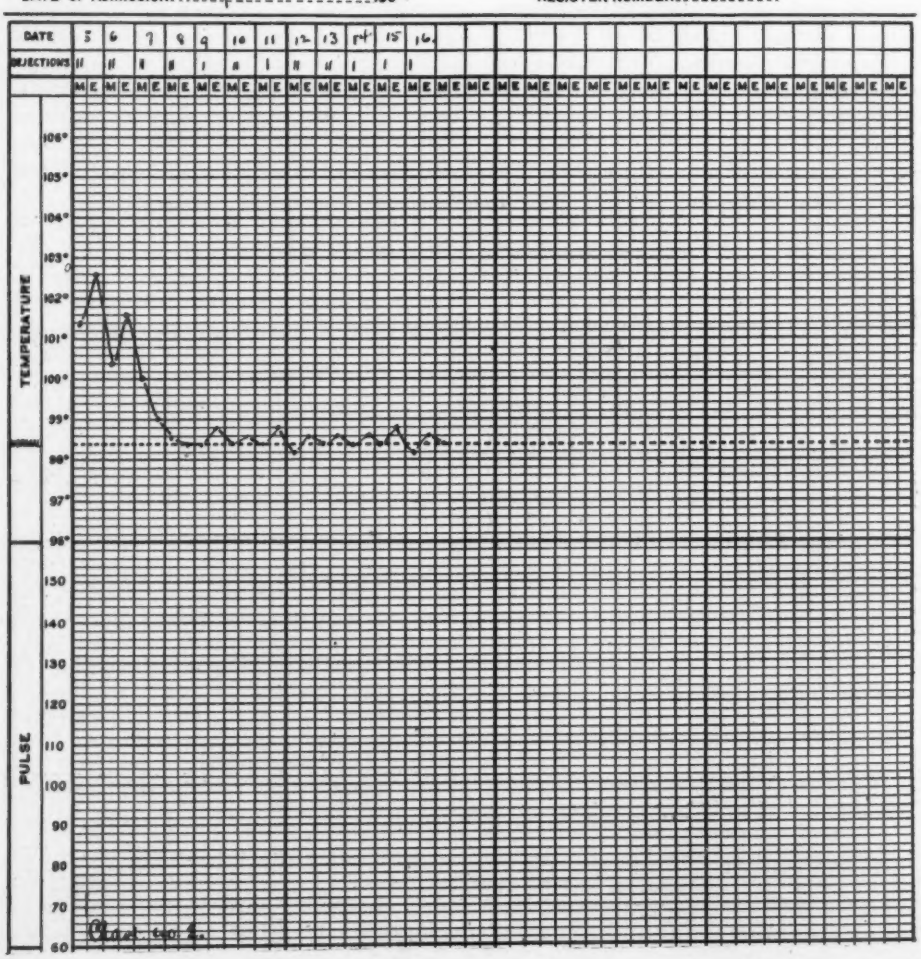
To prevent this untoward effect of mesotan, several simple precautions should be observed. It has been shown that most of these cases have followed the application of mesotan in full strength. It should, therefore, never be so used until the individual susceptibility of the patient has been learned, but should be applied in the 50-per-cent dilution. The second factor in the production of skin irritation is friction in applying the drug. Ruhemann, who advised vigorous friction in applying the remedy, was also the first to describe the dermatitis following. He has since come to the conclusion that the rubbing is responsible. The mesotan should be painted on, or at most gently rubbed on with the finger-tips. Some of the cases have arisen from binding impervious coverings over the part after the drug had been applied. It was at first supposed that this measure insured and hastened its absorption, but that is not true. Occlusive dressings macerate the skin and predispose to the drug irritation. In practice here the exposed parts of the body, such as the neck, hands, and wrists, were covered, after the application, with a piece of gauze. For the other parts of the body, pajamas and the bedclothing were considered sufficient. Another reason for some of the skin eruptions is, that mesotan is used in many cases after the skin has already been irritated by such local remedies as mustard and chloroform ointment. Besides these precautions, it is always wise not to continue the application of mesotan too long to the same area, but to choose adjacent spots for successive treatment. It must, however, be remembered that in spite of all precautions eruptions may develop in people with delicate skins,



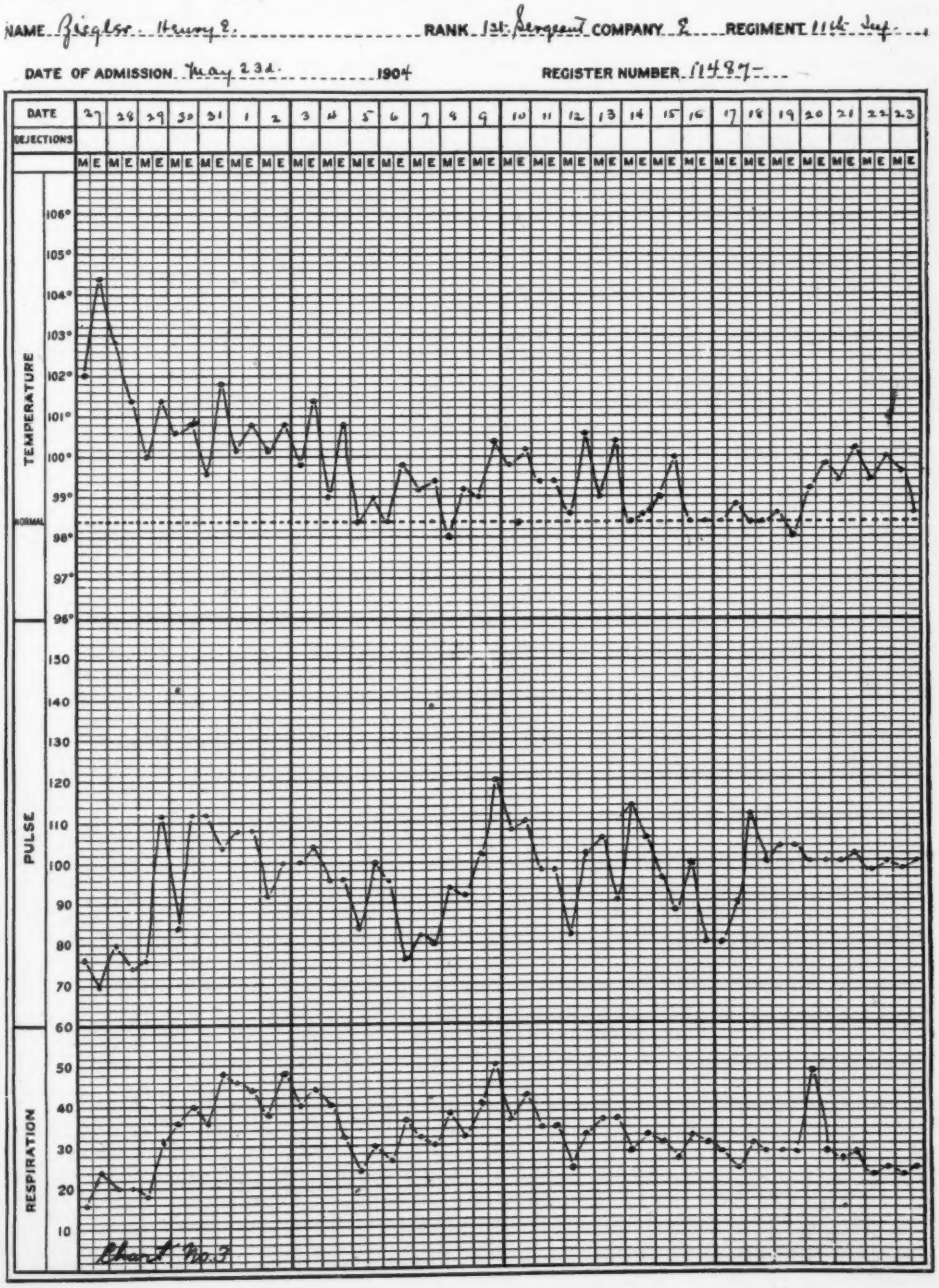
and in those who present an idiosyncrasy to drug urticaria or dermatitis. Indeed, the internal administration of the salicylates may produce, in the susceptible, an urticaria or even a dermatitis severe enough to progress to vesication.

The therapeutic effect of mesotan depends on its action as a salicylic acid compound; consequently we look for good results, first of all, in the purely rheumatic affections. In truth the good effects of this remedy are seen almost exclusively in this class of cases.

In *acute articular rheumatism* the effect is most remarkable. There can be no question of the curative action of mesotan on rheumatic pains and swellings. Floret goes so far as to say that the remedy never failed him in undoubted cases of rheumatism, and that in articular and muscular affections of a doubtful character its good effect or failure served him as a diagnostic measure. I have treated with this remedy, in hospital and practice at this station, twenty-two cases of acute articular rheumatism of varying severity. For purposes of study, twelve of these received no other treatment than mesotan. The remaining ten had, in addition, salicylates by the mouth. In two cases I was able to record the apparent dispersal of an attack of articular rheumatism. One of these cases (register No. 11,380) was admitted with severe involvement of both wrists, both elbows, and both shoulders (temperature chart No. 1). Twelve grammes of pure mesotan were applied to these joints in the morning and evening of the first and


Name Mc Daniel Wm H RANK Private COMPANY B. REGIMENT 11th Inf.
DATE OF ADMISSION May 5th 1904 REGISTER NUMBER 11405.
DATE 5 6 7 8 9 10 11 12 13 14 15 16
DEJECTIONS
TEMPERATURE
PULSE
106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°
150 140 130 120 110 100 90 80 70 60

second days. The effect was marvelous. The pain disappeared in twenty-four hours completely; in forty-eight hours the temperature fell to normal, although it had been up to 104.8° on the evening of the first day. Slight recurrences of pain in the joints for seven days following were controlled by one application daily of 40 per cent mesotan. The other case (register No. 11,405) was almost identical in its clinical features (chart No. 2). The remedy proved to be particularly effective in acute cases with involvement of the costal and vertebral articulations. It quieted the severe pain on breathing, and gave these patients a greater measure of relief than any other means I have ever seen employed. The chart of such a case is appended (No. 3, register No. 11,487). This man had an extremely severe attack

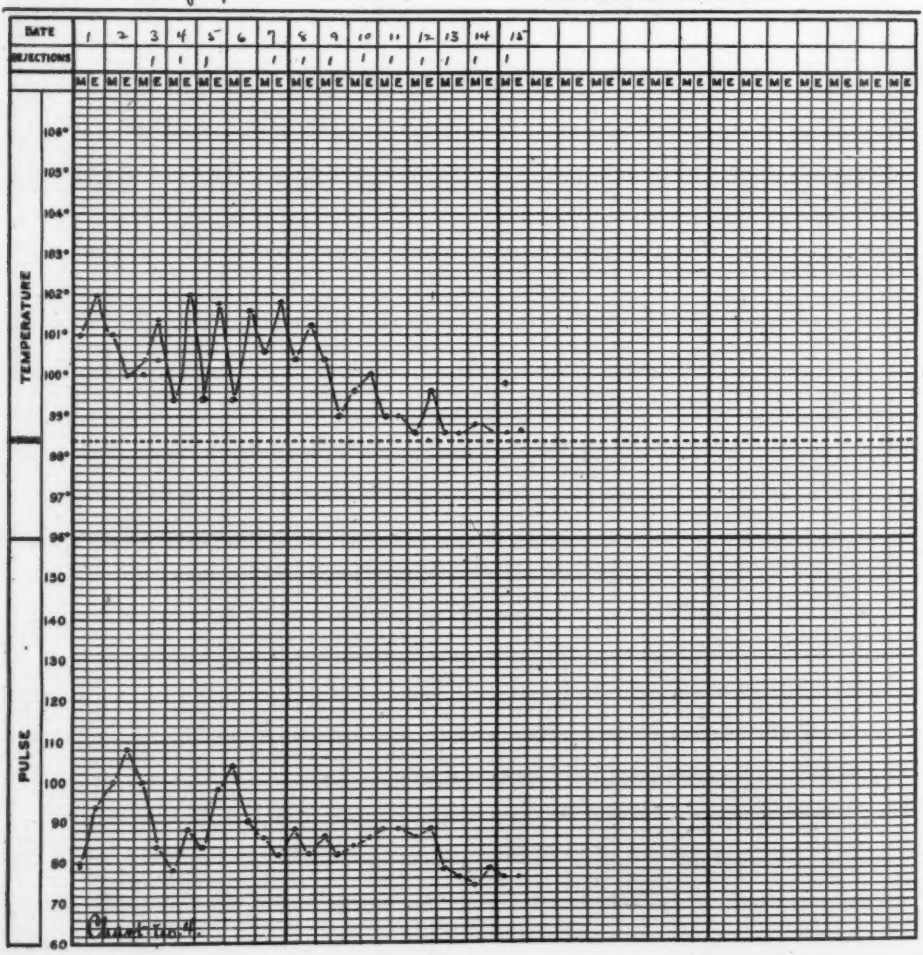


with early cardiac involvement. There was a to-and-fro murmur at the mitral and a systolic murmur at the aortic cartilage. The pulse was rapid, arrhythmic, and weak. He suffered extremely from vertebral pain and pain on breathing. In his case mesotan was applied to the precordium and spine. He made a good recovery, without apparent permanent heart lesion, the duration of the disease being sixty-nine days. This was the longest and most severe case in the series. Curiously enough this is a rheumatic climate, although the altitude is great, 6100 feet, the air exceedingly dry, and the rainfall very moderate. Many of the cases observed here are postanginal; they are severe and of prolonged duration. With the ordinary methods of treatment a fairly large proportion of the cases lapse into slow, chronic illnesses, that require transfer to the Hot Springs Hospital or to another climate to get well. Since using mesotan as an adjuvant to the treatment of rheumatism no cases have needed transfer. Another peculiarity of the cases, apart from the slow convalescence, is the rapid reappearance of joint symptoms and pains when the salicylates are stopped. This necessitates prolonged treatment with many toxic manifestations. It is exactly in these cases where, by controlling the recurrence of joint pains without disturbing the patient's digestion and assimilation, mesotan has given very satisfactory results.

In four cases of monoarthritis observed here, all of them gonorrheal in character,

NAME Stephens Joseph C. RANK Private COMPANY B. REGIMENT 11th Inf.

DATE OF ADMISSION July 1st 1904 REGISTER NUMBER 11566.



the remedy was of no service whatever. The same thing is true of two cases of syphilitic joint pains. In one case of gout the pain was controlled, but there was no apparent effect on the disease process. In the so-called "uric acid diathesis" it does no good.

Subacute and Chronic Articular Rheumatism.—Four cases were treated that come under this category. Of these, two were permanently and quickly relieved, one of them being rapidly dissipated (chart No. 4, register No. 11,566). The third was an old case with great thickening of the capsules and ligaments about the joints. In this case the mesotan had only a transient analgesic effect. In the other three cases it was rarely necessary to apply the mesotan more than once daily to give entire freedom from pain for the twenty-four hours.

Muscular Rheumatism and Rheumatism of the Fasciæ and Aponeuroses.—In this class of cases the results were very satisfactory. Particularly was this found true, as Posselt has pointed out, in well developed muscles with thin fascial coverings. Such are the muscle groups in the upper forearm, the arm, and the shoulder-girdle. In acute torticollis and lumbago the effect of the remedy was good. Ruhemann advises the use of mesotan on porous or rubber plaster, with 4 cubic centimeters of the drug to each plaster, when the pain to be treated is located in one group of muscles, as in lumbago. This was found to be a convenient as well as an economical way of using the mesotan.

In these altitudes we see a curious tendency to the development of severe and harassing rheumatoid pains in joints following sprains, contusions, fractures, and luxations. Indeed, the after-pain in many cases is much more troublesome than the original injury, which it follows from one to four weeks. In many cases it is out of all proportion to the injury; it lasts a long time and is rebellious to treatment. Very excellent results were obtained in four cases of this kind—two severe sprains of the ankle-joint, one Pott's fracture, and one dislocation of the shoulder.

Ruhemann has reported the excellent effect of mesotan in rheumatic iritis. I am able to report one such case of a rather severe type. Of course, other means—hot water, atropine, and systemic salicylate saturation—were employed, but I am convinced that the local application of mesotan to the brow and temple notably diminished the pain and shortened the course of the disease.

On the pains of neuralgia the effects were variable. In two cases of trigeminal neuralgia it had an undoubted good effect. We see many cases of supra- and infra-orbital neuralgia here from exposure to the winds. Both of the cases were of this type, and the relief in both was most pronounced. In other neuralgias I could observe practically no good effects from mesotan. In neuritis of the larger trunks it failed entirely. In two cases of sciatica no good effect whatever was observed; neither was there any benefit in one case of intercostal neuralgia and one case of crural neuralgia.

Three cases of *arthritis deformans* were treated with mesotan. In all of them it notably relieved the pain. This was more particularly true of two cases in which the disease was limited to the hands. In the third case, with involvement of the wrists and great thickening and distortion of the joints, the effect was not so good, and in three weeks the patient seemed to have established a tolerance to the remedy. After that it did no good.

Mesotan has been recommended for the arthritic pains associated with and following influenza. No case of this disease has come under treatment here during the progress of this study.

Ruhemann and others have noted the rapid recession of facial erisypelas under local application of mesotan. I was led by these observations to try it in one case. I believe it controlled the pain, but I could not see that it delimited the disease in any way whatever. In this I must agree with Korach, who likewise could not verify these observations. He did notice a marked diminution of the painful sense of tightness in the inflamed area. He thinks the remedy cannot limit the spread of the disease, and I agree with him entirely.

Ruhemann also reports a case of bronchiectasis in which there was profuse, putrid sputum. He states that a few inunctions entirely destroyed the offensive odor. I have no observations bearing on this point.

Tausig reports a rapid curative effect on cases of pruritus and hyperidrosis.

Strasz reports a marked temporary effect on the night sweats of phthisis. For

the first few nights the sweats were entirely controlled, but unfortunately this action was of very short duration. After fourteen to eighteen days, in most cases, the remedy failed to have any further effect. But even this much he considers, and very properly, to be a gain. I have had opportunity to try mesotan in only one case of phthisis with night sweats, and in this one I could not verify the observation of Strasz.

Von Crieger and Gröber report marked amelioration of pain in a case of advanced carcinoma of the mediastinum with great swelling and pain in the arm. The remedy has also been tried by them in lead neuritis, but without any good results. Posselt and many others recommend its use in pleuritis of "rheumatic" character, and for the relief of pain in dry and chronic pleurisies. On all of these points I have had no experience.

I have used mesotan in seven cases of acute gonorrheal epididymitis and orchitis. The whole scrotum was painted with the drug in full strength. The effect was remarkably good. I know of no other means that will give the prompt and lasting relief from pain, which followed in all of these cases. I am not sure that it directly influenced the disease itself, but the analgesic effect was very satisfactory.

Various observers have tried to energize the action of mesotan. Strasz endeavored to intensify its action by producing a preceding artificial hyperemia by means of friction, heat, or dry cupping. Apart from the unquestioned good effect that these measures of themselves have on rheumatic lesions, I doubt very much whether they do increase the effect of this particular drug. They would undoubtedly increase the liability to the formation of a mesotan exanthem. I do believe, however, although my experience on this point is so small that I speak with diffidence, that the absorption of mesotan and gaultheria both may be hastened by static, or better still, high frequency, discharges into the skin after the application of the remedy. Whether such an action is to be desired, in view of the fact that absorption progresses uniformly and rapidly, is to my mind a question.

Mesotan has no other remedial value than that of the salicylates. But while the different preparations of salicylic acid by the mouth exert only a systemic effect, it seems clear that not only does mesotan have a systemic effect, but it also has a direct local effect, probably on the nerve endings in the diseased areas. In addition it has a local derivative effect. It is a valuable remedy to assist the internal administration of the salicylates, or to replace them when they are not well borne by the stomach. Its use is limited to the purely rheumatic affections, and some few diseases of serous structures. It has none of the toxic effects of the salicylates administered internally. Its one untoward action is the tendency to produce a local or general dermatitis, which should always be borne in mind, and against which the simple rules already given are ample safeguards.

I desire to express my thanks to the Surgeon-General for furnishing the mesotan with which these studies were carried out.

A bibliography of the more important articles consulted follows:

1. Ruhemann: Demonstration eines neuen Präparates. *Verhandlungen d. Verein f. Innere Medicin*, Berlin, xxii, p. 243, 1902-03.

2. Ruhemann: Ueber Mesotan. *Deutsche med. Wochenschr.*, 1903, No. 1.

3. Ruhemann: Vermeidung der Hautreizungen bei Anwendung des Mesotan. *Berliner klin. Wochenschr.*, 1904, No. 25.

4. Niedner: Notiz zur Mesotanbehandlung. *München. med. Wochenschr.*, 1904, No. 15.

5. Domke: *Medico*, September, 1903.

6. Kayser: *Münchener med. Wochenschr.*, September, 1903, No. 38.

7. Weil: *Münchener med. Wochenschr.*, February, 1903, No. 7.

8. Goldman: *Apothek Zeitng.*, 1903, No. 82.

9. Von Crieger and Gröber: Ueber Mesotan. *Die Heilkunde*, vii, February, 1903, No. 2.

10. Strasz: Kritische Bemerkungen zur Anwendung einiger neuer Präparate. *Wiener klin. Rundschau*, 1903, No. 50.

11. Frankenburger: Ueber therapeutische Erfolge mit Mesotan. *Münch. med. Wochenschr.*, 1903, No. 30.

12. Floret: *Deutsche med. Wochen.*, 1902, No. 42.

13. Röder: *Münchener med. Wochenschr.*, 1902, No. 50.

14. Meyer: *Allgemein. med. Centralzeitg.*, 1903, No. 6.

15. Kropil: *Wiener med. Presse*, 1903, No. 13.

16. Liepelt: *Berlin. klin. Wochenschrift*, 1903, No. 16.

17. Posselt: *Deutsche Medizinal-Zeitg.*, 1903, No. 21 and No. 16.

18. Tausig: *Allgemeine Wiener med. Zeitg.*, 1904, No. 6.

19. Reichmann: *Therapie der Gegenwart*, 1904, No. 12.

20. Ardo: *Magyar Orvosok Lapja*, 1902, No. 50.

21. Zeigan: *Berlin. klin. Wochenschr.*, 1903, No. 12.

22. Korach: *Münch. med. Wochenschr.*, 1904, No. 34.
23. Von Berliner and Sack: *Monatshefte f. Prakt. Dermatologie*, 1904, 3 und 5.
24. Ankemann: *Deutsche med. Wochenschr.*, 1903, No. 1.
25. Dreser: *Therapeutische Monatshefte*, Mar., 1903.
26. Herschman: *Wisconsin Medical Journal*, March, 1903.
27. Jurim: *Medical Times*, October, 1903.
28. Pollitzer: *Journal of Cutaneous Diseases.*
29. Meyer: *Deutsche med. Wochenschr.*, 1902, No. 27.
30. Otto: *Deutsche med. Wochenschr.*, 1903, No. 7.

THE TREATMENT OF ANTERIOR GONORRHEA.

By S. G. Brown, M.D.,
Montreal, Canada.

Occasionally we find among those who have contracted this disease some who in place of using the advertised nostrums for two or three weeks come at once to a physician. In these cases it is quite possible to abort the more acute painful symptoms, and to cut short the disease. The treatment I describe, when carried out in a rigid manner from the start, is followed by the most gratifying results, though it may not be practicable in patients with hypersensitive urethras.

The treatment is as follows:

1. The anterior urethra is thoroughly cleansed with a solution of boric acid by means of an irrigator, care being taken that none of the fluid goes beyond the compressor.

2. There is provided a syringe with a conical nozzle having a capacity of 6 drachms. Night and morning the anterior urethra is distended six times by means of this syringe, containing a solution of potassium permanganate (1:3000), to which has been added 10 per cent dark fluid extract of hydrastis. Four and a half ounces of this solution is used with each treatment. Internally forty grains of salol are given daily. Rest, a simple diet, and large quantities of water are desirable.

This treatment is not adapted to those whose occupation prevents a reasonable amount of bodily rest. When applicable its beneficial effects are observed in two or three days. In eight to ten days there will be in the urine neither pus nor gonococci.

In chronic gonorrheal anterior urethritis my results have been as follows: Eleven cases were discharged inside of four weeks, four cases in five weeks, one case in six weeks, and one case was lost sight of.

The method employed was as follows: Once daily, for ten days, by means of a fountain syringe and retroinjector, the anterior urethra was flushed out with a warm saturated solution of boric acid. Immediately thereafter as large an endoscope as the meatus would admit was passed, and the anterior urethra was thoroughly swabbed with a mixture made up of equal parts of fluid extract of hydrastis, distillate of hamamelis, water, and glycerin. In more obstinate cases a swabbing every second day with equal parts tinct. benzoin co. and balsam Peru in the morning was of great service.

In none of the cases recorded has any recurrence shown.

THE RATIONAL TREATMENT OF TYPHOID FEVER.

By W. R. Lastrapes,
Opelousas, La.

The literature of typhoid fever has become so very extensive in recent years that in presenting this article I am quite cognizant of the fact that the ground has been fully covered time and time again by practitioners of medicine of marked ability and wide experience. It is, however, in my judgment a matter of such vital importance and magnitude that no amount of discussion in our journals can possibly be out of place or uninteresting. I therefore feel amply justified in directing attention to what I regard as the most salient points to be considered, and the most effective measures to be employed, in the management of this much-dreaded and dreadful malady. I believe that a thorough appreciation of its etiological and pathological features is absolutely essential to the establishment of wise therapeutic measures. It has been my observation that, in the journals especially, too little attention and consideration have been given to those points. I shall, therefore, without claiming to advance any new theories or ideas, briefly call attention to them.

We are informed by bacteriologists that typhoid fever is due to a specific germ, the *bacillus typhosus* (the bacillus of

Eberth). This organism is found in the blood and lesions. As regards the mode of infection, most observers are of the opinion that the atmosphere is never impregnated with the fever germ, the poison making its entrance into the system by means of infected water, ice, milk, etc. The germ can readily be destroyed by thorough disinfection of the excreta, the best agents for that purpose being heat, bichloride of mercury, and carbolic acid, precedence being given in the order named. In this connection it is only just and proper to state that such eminent investigators as Bouchard, Liebermeister, and Landouzy have held that the air is a positive means of infection by typhoid fever. Landouzy has reported two cases that are intensely interesting. The first was that of a person twenty-five years of age, who was the only one affected in a family of ten, whose food, drinking-water, and hygienic environments were all that could be desired, and therefore the usual mode of infection was absent. It was discovered, however, upon careful investigation, that the ventilating pipe of a public water-closet opened half a yard below the window of his bedroom. The second case was exceedingly similar, in fact almost identical. A young lady, the only one attacked in a family of five, had been occupying a room beneath the window of which the ventilating pipe of a privy terminated.

Bouchard relates a case of infection directly due to emanations from the atmosphere, which is certainly well worthy of serious consideration. A man, who was the victim of an attack of typhoid fever in a certain place, returned to his native home, where there had been no manifestation of the disease for many years. His excreta were put upon a "fumier," which was subsequently removed by five men. Four of these men were attacked by typhoid, and the fifth suffered with intestinal and splenic disease. The evacuations of these patients were thrown upon another "fumier" about one year later by two men, who became the victims of undoubted typhoid fever.

As regards the pathological anatomy of this disease, the specific anatomical lesions are always present, as has been demonstrated by a post-mortem examination in every case of which there is any record. As far as I am aware, there is practically no difference of opinion concerning the theory that the poison attacks the intestinal canal primarily, inducing the well known changes in Peyer's patches. It is, however, highly probable that the blood, and through it the entire system, is almost if not simultaneously affected.

What, then, is the pathological condition found in the intestinal canal? Peyer's patches are indurated and thickened, and it is not infrequently found that the entire number is involved. Then follows the sloughing of the solitary glands, which sloughing does not necessarily involve all the glands, since in some cases the morbid changes are arrested prior to the stage of necrosis. Ulceration, which is entirely dependent upon sloughing, ensues, the sloughs gradually separating, ulcers of various sizes remaining. This is followed by cicatrization, and, as is well known, in some cases by perforation.

Now as to treatment. Upon what should it be primarily based, and what are our most reliable and successful therapeutic measures? This is unquestionably a disease in which the vigilance, skill, and patience of the medical attendant as well as the nurse are put to a severe test. It has been truly said that a nurse who was qualified to successfully handle a case of typhoid fever was competent in every respect to pursue her honorable and noble calling; and fortunate, indeed, are those who enjoy the benefit of trained assistants. Their very presence in the sick-room is a source of fortitude and hopefulness to the patient, as well as a genuine encouragement to the physician. How gratifying it is to the latter to know that his patient is under the never-ceasing care of a skilled nurse, and that his directions are being scrupulously followed!

I am fully aware that a great many are of the opinion that the antiseptic treatment of this disease plays quite an unimportant part, precedence being given to nutritional measures, hygienic environments, antipyresis, etc. In my opinion the administration of antiseptic drugs should claim our first attention, constituting the most important and effective part of the treatment, and being, therefore, imperatively required from the very outset of the disease. And I regard it as logical practice to continue with the

employment of antiseptics practically throughout the disease, or at least until such time as there is an evident and decided amelioration of symptoms. I believe that by a thorough and continuous disinfection of the intestinal canal we hamper, to no little extent, the progress and virulence of the specific bacterial poison, thereby fighting the enemy with the proper weapon, and paving the way for the prevention, to a considerable extent, of serious complications.

The initial treatment of this disease, as in all fevers, consists in administering a good purgative, followed usually by a saline. Calomel is always effective, and besides producing the desired purgation, tends to lessen the severity of the symptoms by exerting its antiseptic action on the intestinal canal.

There is such a variety of drugs possessing antiseptic properties that it is not in the least difficult to make a selection. Any of the following may be employed with benefit: Thymol, guaiacol carbonate, carbolic acid, iodine, salol, salicylate of bismuth, and sulphocarbolate of zinc. A very reliable combination is carbolic acid, bismuth subnitrate, and simple elixir, with the addition of deodorized tincture of opium whenever the intestinal movements are excessive and abdominal pain severe. This mixture is easily retained—in fact, it exerts a beneficial influence upon the stomach, frequently preventing nausea and vomiting, and thereby rendering valuable assistance for the reception and retention of food. When diarrhea is absent, as is sometimes the case, there is, of course, no indication for the employment of the bismuth and opium.

In producing intestinal antisepsis we frequently observe that the tongue rapidly becomes clean and moist, and remains so; tympany is absent, or if present, quickly diminishes; diarrhea and delirium are markedly controlled; and the temperature declines to a point where we can readily dispense with the use of antipyretics.

As regards other considerations of treatment, next in importance to intestinal antisepsis is nutrition. The diet should be of a liquid character throughout the disease, and for a period of ten days at least after convalescence. Milk is doubtless the best food, but it will be observed that it will not infrequently be rejected. I have, however, often seen trouble with milk overcome by the addition of a little French Vichy water. An excellent rule to adopt is to withdraw any food or medicine against which the stomach rebels. We should always bear in mind that a person suffering with typhoid fever has to deal with an exceedingly formidable antagonist, and to keep the stomach in proper condition should be a matter of serious concern. Other suitable articles of food are beef tea, mutton and chicken broth, soft-boiled eggs, and egg water. Egg-nog and milk punch are likewise ideal foods in typhoid fever, and whenever well borne should be administered from the beginning of the second to the end of the fourth week. During this period the general system, and particularly the heart, is often in urgent need of stimulation, as well as nourishment, and to meet that indication probably no more effective resources are at our command than milk and whiskey. Some prefer to give them separately, but it seems to me to be decidedly advantageous to the patient to combine them. Brandy is an excellent stimulant, and should always be used when whiskey is not tolerated. As to the amount of stimulation required during the twenty-four hours, no fixed rule can be laid down; but in the majority of cases one-half ounce of whiskey, or a little less of brandy, every three or four hours, will be quite sufficient for an adult. In this connection it is proper to state many hold that regular and systematic alcoholic stimulation is indicated only in severe cases of typhoid fever. With this view I readily concur.

When we come to the question of medicinal agents as stimulants, I think the opinion is almost unanimous among physicians that strychnine is our most effective cardiac and general stimulant. We employ it in typhoid fever, more especially on account of its direct and positive effect on the cardiac muscle and intracardiac ganglia, but, as is well known, it also exerts a powerful influence on the digestive apparatus and the nervous system; so that I consider it a sensible practice to administer the drug during almost the entire course of the disease. It should be given in doses of 1-60 to 1-30 of a grain every five or six

hours. Digitalin and nitroglycerin are also valuable cardiac stimulants, but, generally speaking, it will not be found necessary to employ them. To combine the three seems sometimes to add to their therapeutic efficiency.

In considering the question of the reduction of temperature, which is certainly an important matter, there is still, apparently, considerable difference of opinion as to the use of the many agents at our command for accomplishing this result. Water is undoubtedly our safest antipyretic, and even if it does not always produce antipyresis, it exerts a highly beneficial action on the skin and nervous system. By that action it subdues to a considerable extent undue restlessness and delirium, has a genuine tonic effect on the general system, promotes free action of the skin, and relieves the kidneys and heart of some of the extra work they are required to perform. Cold and tepid sponging I have found quite as productive of good results as the cold bath. There are so many objections to the employment of the bath that I am at a loss to know why it is so frequently employed, to the exclusion of sponging. The latter is certainly more agreeable to the patient.

The internal use of water is also of great benefit. To allow the patient plenty of water is not merely an excellent antipyretic measure, but is decidedly refreshing and humane. Large draughts of water flush out the intestinal canal and kidneys, and thus greatly assist in ridding the system of poisonous material. As regards the use of the coal-tar derivatives and other antipyretic drugs, I must confess that I cannot agree with those who claim that they have such a depressing effect on the circulatory system. It cannot be denied that acetanilid and antipyrin depress the heart, but such is by no means invariably the case; and when they do, if we support the heart with strychnine, digitalin, or caffeine I cannot understand how much harm to the cardiac muscle can result. In fact, it is neither wise nor necessary to administer acetanilid alone, and caffeine should always be given with it. I never employ antipyrin in typhoid fever, having a decided preference for acetanilid, because of the fact that its effects are more lasting. I have very recently had occasion to confirm the opinion expressed above. In a case under my care, in which the temperature showed a strong tendency to remain at a high point, acetanilid, quinine, and phenacetine were employed exclusively to reduce it as often as necessary, and not once were any untoward effects upon the circulatory system observed. Quinine is of great value in typhoid, and is especially so in cases occurring in malarial districts. As an antipyretic, it should be given in doses of fifteen or twenty grains, repeated p. r. n. We have an additional advantage in using this drug, since it acts favorably on the blood, and also as a general tonic. As a matter of course, its tonic effect is greater when exhibited in smaller doses than above mentioned.

In taking up the question of the complications of typhoid fever I shall be brief. It is probably true that more so than in any other disease they constitute the chief dread of the physician. The following picture is fortunately of rare occurrence: The temperature is under perfect control, the appetite is good, the kidneys are acting nicely, the evacuations are not too frequent, assimilation is all that could be desired, and the patient is resting easily—in a word, all symptoms are highly favorable—when, with a suddenness that indeed surpasses the "clap of thunder in a clear sky," we have the awful spectacle of a profuse intestinal hemorrhage. What should be done? Morphine (½ grain) and atropine (1-100 grain) should at once be administered hypodermically, followed by the fluid extract of ergot or ergotin, which should be repeated every hour or two, according to indications. At the same time the application of cold to the abdomen should be made, as this is sometimes of undoubted benefit. If perforation and peritonitis should unfortunately occur, morphine hypodermically, hot applications to the abdomen, and prompt stimulation should be used. After these measures surgical intervention, in the light of recent experience, is apparently the proper procedure.

In conclusion, it should always be borne in mind that proper ventilation, light, cheerfulness, and cleanliness are effective adjuncts, and go far toward producing a favorable termination of the case of typhoid fever.

The Therapeutic Gazette

EDITED BY
H. A. HARE, M.D.,
GENERAL THERAPEUTICS,
AND
EDWARD MARTIN, M.D.,
SURGICAL AND GENITO-URINARY THERAPEUTICS.

SUBSCRIPTION RATES FOR 1905:

(PAYABLE IN ADVANCE.)

THERAPEUTIC GAZETTE (*postage included*).....$2 00
THERAPEUTIC GAZETTE with MEDICAL AGE..... 2 50
THERAPEUTIC GAZETTE with BULLETIN OF PHARMACY 2 50
THERAPEUTIC GAZETTE with MEDICINE..... 3 25
THERAPEUTIC GAZETTE with AGE and MEDICINE..... 4 00

Foreign subscriptions may be ordered either through our European branch, 111 Queen Victoria Street, London, E. C.; or through our agent in England, Mr. H. K. Lewis, Medical Publisher and Bookseller, 136 Gower Street, London, W. C. Price, 10s. Remittances may be made either by Postal Order or Stamp.

Price to Foreign Subscribers direct (postage included), $2.50 (10 shillings). English postage-stamps received on remittances.

Editorial communications should be addressed Northwest Corner Eighteenth and Spruce Streets, Philadelphia. Articles intended for the Original Department of the GAZETTE will be accepted only with the understanding that they are contributed to it exclusively.

Authors will receive reprints in pamphlet form, without charge, providing the request for them be written on the articles sent.

Business communications should be addressed to

Publisher The Therapeutic Gazette,

Box 484. DETROIT, MICH.

Leading Articles.

RECENT INVESTIGATIONS WHICH GOVERN THE INTERNAL USE OF ALKALIES AND ACIDS.

For many years after the classical researches of Beaumont upon gastric digestion very little advance was made in our knowledge concerning the movements of the stomach and the action of the pylorus. Laboratory investigators without number carried out a host of researches upon the influence of real and artificial gastric juice upon various articles of food; the great majority of these studies being concerned with the changes which take place when hydrochloric acid, pepsin, and a proteid were brought together under a proper temperature in a test-tube. With the publication of Pawlow's researches, which have certainly marked another epoch in our knowledge of gastric movements and digestion, additional stimulus has been given to the study of this important subject, and as a result we have before us to-day certain facts which very materially modify our previous conceptions concerning it.

Among the American investigators who within the last few years have done much in this line there is perhaps no one who has made as interesting contributions as Cannon, of Boston, and he has recently given us in the *Journal of the American Medical Association* a valuable summary of his own work, and that of several others who have worked in the laboratory, or at the bedside. From these investigations it is more evident than ever before that the function of the pyloric sphincter is quite as important in the carrying out of the digestive processes as is the gastric juice. It has been proved that the presence of food in the stomach reflexly causes a contraction of the pylóric sphincter, and this contraction persists until a sufficient quantity of free acid has been secreted in the stomach, when as a result of the presence of this acid the pylorus is opened and a portion of the acid chyme finds its way into the duodenum. No sooner, however, does the duodenum recognize the presence of an acid mixture than there is a reflex contraction at the pylorus, so that the opening is once more closed, and simultaneously there is a flow of the alkaline secretions of the pancreas which neutralizes the acid, so that, within the first few inches of the stomach, the acid chyme no longer exists as such. With the gradual reaccumulation of acid in the stomach contents and the gradual decrease of acid in the duodenum, there is for a second time a gradual opening of the pylorus in order that the process already described may be repeated, and in this way certain articles are retained in the stomach, and others which require little gastric digestion and much intestinal activity are speedily brought into the duodenum. In other words, starches, which are but little affected, if at all, by the stomach, but which nevertheless cause a rapid secretion of gastric juice when they enter this viscus, are speedily passed into the duodenum for pancreatic digestion; whereas proteids, which are normally digested in the stomach, combine with a large part of the acid secreted, and therefore are retained for complete digestion until the chyme becomes so acid that the pylorus once more undergoes relaxation.

The process in its entirety, however, is by no means as simple as the preceding sentence would indicate. It has been proved that on the entrance of the acid

contents of the stomach into the intestine the mucous walls of the bowel develop a secretory stimulant called "secretin," which is absorbed into the blood and carried to the pancreas, where it stimulates the flow of pancreatic juice. When a sufficient flow of this juice has taken place to neutralize the acid, this secretory excitant is no longer formed and the flow diminishes. In addition to this influence the presence of acid in the intestine increases the flow of bile and of the intestinal juices. Thirdly, these intestinal juices contain a substance known as "enterokinase," which activates the ferments in the pancreatic juice, or, in other words, converts the zymogen of this fluid into trypsin.

Aside from the interest which these physiological researches possess, it seems to us that they also have a very considerable bearing upon the administration by physicians of acids and alkalies in conditions of so-called indigestion. It is evident that by the administration of hydrochloric acid we may, instead of aiding gastric digestion, on the other hand cause the speedy passage of foodstuffs into the intestines ordinarily digested in the stomach, and conversely, the use of alkalies may delay passage through the pylorus, and so, in one sense, interfere with the action of the intestinal juices upon carbohydrates. This is a possible explanation of the fact that pepsin and hydrochloric acid often seem to do good in cases of indigestion which depend upon faulty care of carbohydrate foods. In other words, these substances do not directly aid in the digestion of carbohydrates, but indirectly enable them to speedily enter the intestine, where the pancreatic juice can promptly deal with them. It must be evident from what has just been said that it is not a question of lack of gastric secretion which is to be considered alone in many cases of dyspepsia, but that the subject is much more complex and must receive the attention of every careful practicing physician and of every modern physiologist.

ALCOHOL AS A FOOD.

The title of this editorial note has been printed so often at the beginning of original researches, editorials, and correspondence that our readers are probably surprised at our using so trite a term. The mere fact, however, that it is so trite indicates that the subject to which it refers is still being discussed, and that those who know most about it are far from having reached definite conclusions. Our attention is once more called to it by an original research reported in the *Lancet* of October 22, 1904, in which Dr. Goddard, after some preliminary remarks in regard to the early investigations of Liebig, Lallemand, Anstie, and others, proceeds to report the result of a research which he carried out with the object of reaching some conclusion concerning the question at issue. As a result of his work, which was performed upon dogs, he concludes that in *small doses* alcohol is most undoubtedly a food, but that when large doses are taken, about 50 per cent of it is excreted from the system, and under these circumstances, of course, all of it is not a food. Even those who have reached conclusions somewhat different from the ones we have just named have expressed the belief that if alcohol is not a food in the sense that it adds force or tissue to the body, it is nevertheless of value in that it is substituted for foodstuffs or body-tissues whenever there is a tendency by reason of disease to excessive oxidation processes in the body; or, to put it in a somewhat homely way, alcohol given to a patient in whom tissue waste is excessive lends itself to the combustion processes and so saves the tissues. It is on this basis that many physicians for years have administered alcohol in the treatment of the acute infectious diseases. Dr. Goddard's paper is not sufficiently exhaustive to be considered as an epoch-marking contribution to this subject, but as additional evidence to that which has already accumulated it seems to us of value.

THE EFFICIENT DOSE OF DIPHTHERIA ANTITOXIN.

The profession is learning every month that the dose of diphtheria antitoxin is not to be measured in cubic centimeters or units, but that it is to be given for effect, regardless of the dose; that little children do not require smaller doses than grown persons, but, on the contrary, often require larger doses because they are more susceptible to the infection, and it is a

well-known fact that especially large doses are required in the nasal and laryngeal forms of the disease. Very recently we have once more called the attention of our readers to the value of the intravenous injection of diphtheria antitoxin in very malignant cases, and we are now interested in the report of a case by Dr. Sutherlin, of Shreveport, La., in which he gave to a woman of twenty-six years no less than 498,000 units. The largest amount given in any one period of time was given on three consecutive days, when she took 32,000 units each day, or 96,000 altogether. Recovery took place. During the time that the woman was ill her infant of eighteen months was given 500 units as a prophylactic, the husband 2000 units, the nurse 1000, the mother of the patient 2000, and the attending physicians 4000. The servants in the house also received prophylactic doses, and none of them were taken ill with the disease, but some time later the husband developed a very mild attack. The average dose that the patient received was 4000 units four times a day. We mention this case, which is reported in the *Medical Recorder*, not so much because we believe that these very large doses are generally advisable, but because the case illustrates the important point that large doses are often required in virulent infections, and also because the case serves to illustrate the point we have named, that the serum is harmless even when these extraordinary amounts are injected.

THE USE OF HEAT IN THE TREATMENT OF NERVOUS EXCITATION AND SPASM.

With the introduction into medicine of a considerable number of drugs which act as more or less powerful sedatives to the nervous system the profession has drifted away from the employment of the local application of heat and cold for the purpose of diminishing nervous irritability or muscular spasm arising from this cause. As a matter of fact, in a goodly proportion of cases, local manifestations of nervous irritability can be entirely allayed by the proper use of heat and cold. Wryneck or lumbago following exposure, or neuralgia due to the same cause, can often be relieved by hot applications without the administration of any drug. So, too, various forms of facial spasm can be temporarily arrested by hot applications. One of the most useful applications of heat for the relief of nervous irritability is its employment for diminishing nervous restlessness and overcoming insomnia due to this cause. Patients suffering from insomnia are so prone to develop the drug habit that every measure which can possibly produce sleep should be instituted rather than the giving of a hypnotic drug, and a warm pack given by a skilful attendant at bedtime will often act as well as a moderate dose of some somnifacient remedy.

Still another valuable application of heat in a similar condition is the employment of a hot pack for the relief or even the cure of a child who is suffering from severe chorea. Under these circumstances the heart is not infrequently diseased, and therefore the administration of chloral seems contraindicated. Further than this, the use of chloral cannot be continued day after day for considerable periods of time. A child placed in a warm pack at bedtime not infrequently ceases its choreic movements and passes into a quiet sleep while still in the pack. Usually, however, it is wise to remove it from the pack after it has been continued for half an hour to an hour, and roll it into a dry blanket, and let it enjoy the sleep which is already creeping over it. This method, which is quite popular with some English practitioners, has not received in this country the amount of attention which it deserves, partly because persistent chorea which disturbs sleep is not as commonly met with here as it is in England.

Our attention has once more been called to the matter by an article by Dr. Hollopeter, of Philadelphia, who describes a method somewhat different from that which we have named. He advises that the child be placed in a bath at a temperature which will not produce nervous shock either by heat or cold. Here it remains in water from 90° to 96° perhaps for an hour, or even for two hours, twice a day. Personally we prefer the employment of the hot pack in the way that we have described, but Hollopeter claims that he has used the method described in a large number of cases with such signal success that he has come to have great confidence in it.

URINE SEGREGATION.

The great surgical importance of securing the secretion of each kidney for chemical, bacteriological, macroscopic, and microscopic examination before deciding upon major renal operations was recognized long before any practical means were devised by which this end might be attained.

With the introduction of the catheterizing cystoscope such separation became practicable in the majority of cases when the instrument was used by one expert in its handling. Although these instruments have been enormously improved and have been so reduced in price as to have become somewhat popularized, it still remains true that even in large centers there are few surgeons sufficiently skilful in the use of the instrument to successfully catheterize both ureters in the male, and that such catheterization in individual instances becomes impossible even in the hands of the most expert.

It follows from this that the introduction of an instrument simple in construction, easily sterilized, readily introduced, and in the main efficient, is greatly to be desired. The well-known Harris segregator in part fulfils these requirements, but there have been recently devised several instruments which are sufficiently satisfactory to justify a much wider popularity than has yet been accorded them.

The general principle of these instruments is based on the formation of an artificial septum in the bladder, this septum passing between the two ureters and fitting closely to the bladder base. From either side of this septum there are conducting channels which empty into test-tubes. The instrument is made in the form of an ordinary sound of moderate caliber. By means of a screw handle after it has been introduced into the bladder a rubber diaphragm is opened up, the base of which is so jointed that it accommodates itself to the shape of the bladder, and on moderate pressure effectually divides this viscus into two chambers. The instrument can be introduced by any one who can skilfully pass a sound. It can be left *in situ* for a long period, thus enabling the collection of enough water for a careful and complete examination. It does not expose the patient to an ascending renal infection, and is applicable to many cases in which ureteral catheterization is quite impossible. It cannot be claimed that the two urines thus collected are separated absolutely from each other either microscopically or bacteriologically, but for practical purposes the macroscopic and chemical separation is sufficiently distinct to enable the surgeon to come to satisfactory conclusions.

It is well known, for instance, that a diseased kidney, indeed one which without disease is simply misplaced, gives a lower percentage of urea and chlorides than does the healthy organ. Of the various instruments of this type, that devised by Catlin is preferable to the instrument suggested by Luis, while a further modification by Boddaert, having for its ground a more flexible base and therefore more complete adaptation to any shape of bladder, seems distinctly desirable.

A CONTRIBUTION TO THE SERUM THERAPY OF SYPHILIS.

Under this caption is published in the *New York Medical Journal and Philadelphia Medical Journal,* volume lxxx, No. 26, an article which brings to those who have carefully followed investigations in regard to the nature and treatment of syphilis a sense of dazed wonder. The author, as though he were casually calling attention to a universally known fact, states that in 1901 the bacillus of syphilis was isolated and successfully cultivated upon artificial media. Starting with these elusive bacteria he projected and carried out a series of laboratory investigations having to do with the vaccination of animals and the clinical trials of their serum, noting that it is not wise either to detail the preliminary work or to burden the reader with the results of numerous experiments that finally led up to the production of an antisyphilitic serum. Though the principle that the great are modest is thus again illustrated, the author has not taken into consideration the fact that even the routine of his laboratory work would be a revelation to the profession, which still believes that the chimpanzee and perhaps one other animal are the only ones subject to the inoculation of syphilis. The discussion of the theo-

ries that bear upon bacteriolysis *in vivo*, though not illuminating, shows at least a knowledge of the most recent fad in phrasing and terminology. Some cases of syphilis treated by the alleged serum are stated to be fairly representative of about one hundred similar ones. The first patient, who was stated to have had a typical chancre on his tonsil with involvement of the submaxillary and postcervical glands and those of the elbows and groins, and a secondary eruption just beginning to appear through the skin over the chest and back, in the next three weeks received five injections of the vaguely described serum, with complete cure of his lesions. Perhaps the most astounding feature of this case is the fact that subsequently the reporter tested the cure by mixing a drop of this patient's blood with a pure culture of the bacillus of syphilis without observing agglutination or clumping even after prolonged contact.

The second case reported suffered from five chancres, buboes of the groin, and mucous patches in the roof of the mouth. After eight injections, continued during a period of about two months, it was found that the bacillus of syphilis still agglutinated by the blood test. Thereafter the treatment was continued until this interesting test proved negative.

The delight of several physicians who watched this case is properly set forth by the reporter, as is also the proposal of one of them that the blood of this patient should be injected into criminals for the purpose of learning whether or not syphilis had really been cured. This interesting experiment, however, proved impracticable, though it is noted that the patient failed to transmit his disease under favorable circumstances subsequently.

It is somewhat depressing to note that in the three cases treated at the State Hospital of Blackwell's Island the curative effects were no greater than might have been observed under ordinary supporting treatment. The reports of some subsequent cases are so incomplete that no conclusion can be drawn from them, though it is perhaps in accord with the general tenor of the article to find an apparent cure of a case of locomotor ataxia.

On general principles the publication of such contributions as this, inferring if not actually reporting astonishing results from the administration of an unknown medication, the preparation of which is based upon premises obviously untrue and absurd, is, to express the matter mildly, highly undesirable, though the author should be thanked for calling attention to certain facts concerning which even the most distinguished bacteriologists have been in entire ignorance, not the least startling of which is the identification and cultivation on artificial media of the syphilis bacillus.

Reports on Therapeutic Progress

HYDRASTIS—SOME OF ITS THERAPEUTIC USES.

In indorsing hydrastis as a remedy STEWART states in the *Journal of the American Medical Association* of November 5, 1904, that many patients will come complaining of a poor appetite, slight nausea, sometimes vomiting, and catarrhal and subacute indigestion. A proper counsel on diet and hygienic rules is of first importance; then give from one to six drops of fluid extract of hydrastis in water one hour before each meal and at bedtime. If there is no organic impairment of the mucous membrane decided results will follow. If a case of enterocolitis refuses to yield to ordinary treatment, he says, try small doses of hydrastis or hydrastinin at frequent intervals until results are obtained. It can be combined with other remedies.

For local use the glyceritum hydrastis is probably the best preparation. It is productive of excellent results in vaginitis and some forms of leucorrheal discharges, but not in the acute stages. It acts best in subacute or chronic conditions. Chronic or prolonged specific urethritis will benefit greatly by diluted solutions in injection or by direct application. A spray of the glyceritum hydrastis in three or four parts of water greatly reduces chronic nasal catarrh if systematically used. In fact, it is a remedy that, while not infallible, is too much neglected, and should not be overlooked for the newer materia medica. Most authorities recommend much larger doses of the various preparations than have been indicated in this paper, but the writer's experience shows better results with small doses at frequent

intervals. Large doses are liable to produce nausea, vomiting, abdominal discomfort, or diarrhea.

Hydrastininæ hydrochloras in doses of from one-fourth to one grain is an excellent remedy to control menorrhagia, but is slow in its first effects. It has a more prolonged effect than ergot. It is also recommended in epistaxis, hemoptysis, hematemesis, and hematuria. It is a remedy that promises much for the future, and as reports of its use are published positive facts may be deduced. Do not use it in pregnant women except with the greatest caution, as it is liable to induce abortion.

Some prefer the use of hydrastin as representing the effective virtue of the drug. The impure hydrastin may do so, but the chemically pure hydrastin will not give the same effects as those obtained from the fluid extract. Pure hydrastis is given in doses of from one-eighth to one-third grain. While hydrastis is among the oldest remedies, it is probably too little used, too little understood, and is neglected. If this paper will serve to give an incentive to its further investigation and report it will accomplish the object of its production.

POISONING BY WOOD ALCOHOL.

The fact that a number of deaths have resulted recently from drinking cheap and factitious whiskey serves to emphasize the importance and great danger of using methyl (wood) alcohol as an adulterant.

Wood alcohol is used primarily as a solvent, but it can be employed in place of ethyl (grain) alcohol wherever the latter is called for or specified. Within recent years advantage has been taken of its solvent properties, and it has been substituted for grain alcohol in the preparation of flavoring extracts, tinctures, Jamaica ginger, bay rum, Cologne water, witch-hazel, as well as for all kinds of official, domestic, and proprietary remedies, until now its use has grown to alarming proportions. The chief reason for this seems to be the expense. Wood alcohol is free from tax and sells for about fifty cents per gallon, while grain alcohol is taxed and sells for about $2.60 per gallon. Furthermore, because of the inexpensiveness of wood alcohol it is sought by those who desire a cheap debauch, and its results are frequently disastrous. It is also in demand for drinking purposes where ethyl alcohol cannot be obtained. For example, in the Indian Territory, where the sale of grain alcohol is prohibited by the government, the yearly number of deaths from drinking wood alcohol is comparatively large. In the purified or deodorized form, and sold under the names "Columbian spirits," "Colonial spirits," and "Eagle spirits," its taste and odor are not as disgusting as in the unpurified article. It can, therefore, be added to a preparation containing a small amount of grain alcohol without ready detection. Upon this basis it is used to adulterate whiskey, and the results we know. Poisoning may occur as the result of inhalation of the vapor of wood alcohol. This occasionally occurs in manufactories where this form of alcohol is used very extensively as a solvent; it is, therefore, the custom in such factories to admit a great deal of fresh air to the workrooms in order to prevent accidents. Symptoms of poisoning have been known to follow the absorption of methyl alcohol through the skin; for example, after bathing, sponging, or rubbing with it, and after the application of methylated liniments.

Methyl alcohol is distinctly a poison. The symptoms are, first, mild intoxication, later followed by severe headache, marked pallor, gastric pain, gastrointestinal irritation, retching, dilated pupils, partial or complete blindness, paralysis of the legs, dyspnea, delirium, unconsciousness, stertorous breathing, collapse, and death. But recovery may follow, particularly if the dose has been small and the individual is capable of resisting the action of the poison for a number of days. An almost constant feature of this form of poisoning is the toxic amblyopia—retrobulbar neuritis—which, if the patient survives, usually results in partial or total blindness. A cystitis is very apt to follow this form of poisoning. It is not uncommon to find this affection among those who work day after day in the vapor of methyl alcohol. The fatal dose is probably between four and eight ounces. Complete nerve atrophy (optic nerve) has been known to follow the ingestion of from two to five drachms. But wood alcohol or preparations containing it are generally taken in much the

same way as preparations of grain alcohol —*i.e.*, in small amounts and at frequent intervals—so that it usually happens that a pint or even a quart of the fluid has been taken, and with a fatal result. The fatal period is from a few hours to three days, depending on the quantity taken. If recovery ensues, it is generally not complete for several weeks or months.

The post-mortem appearances are as follows: Rigor mortis is usually present; skin very pale, but sometimes livid; marked congestion of the mucous membrane of the stomach and duodenum; ecchymoses may also be found dotting the mucous surfaces of these organs. The vapor of wood alcohol is often perceptible in the stomach contents. The liver and spleen are congested and very friable. The kidneys are congested, showing pin-point hemorrhages. The bladder is congested, and an odor of wood alcohol is in the urine as in the bladder. The brain is edematous; the blood dark and very fluid. The pathological changes which result in death in these cases are not known, although rapid nerve degeneration is probably a potent factor. In some instances there is paralysis of respiration long before the heart ceases to beat, but this is not the invariable rule. It is, therefore, obvious that we must look to the pathologist for more reliable data as to the immediate cause of death. In some cases of poisoning by methyl alcohol it has been found that formates appear in the urine as a result of the decomposition of methyl alcohol in the body, and that they are excreted very slowly. Since sodium formate has been found to be eight times more toxic than methyl alcohol, and that formates are slowly eliminated, we have a probable explanation of the prolonged action of a single dose and the fatal action of large doses of wood alcohol.

The treatment should consist in washing out the stomach, if possible, in order to remove any unabsorbed alcohol. Strychnine should be given subcutaneously in order to counteract as far as possible the depressing effect of the alcohol. The surface temperature must be maintained by the use of heaters or hot packs and by rubbing. Cold applications to the head and rectal injections of hot coffee are useful. In the mild cases cathartics and enemata may be given; also potassium iodide in increasing doses. The latter acts favorably in cases of partial blindness. There is no known antidote for methyl alcohol.

We have pointed out some of the dangers of the use of wood alcohol, and we take this opportunity of encouraging more vigorous action by boards of health in regard to the sale of methyl alcohol and its use in pharmaceutical preparations, whiskey, flavoring extracts, etc., which, on account of this form of adulteration, place the lives of individuals in jeopardy.—*Boston Medical and Surgical Journal*, Dec. 22, 1904.

ETHYL CHLORIDE AS AN ANESTHETIC IN GENERAL PRACTICE.

In the London *Lancet* of December 17, 1904, HILLIARD writes in an interesting manner on this subject. He says that almost any posture is safe, so far as the anesthetic is concerned, but it is to be remembered that small children are best anesthetized in the recumbent position—they are apt to collapse into a heap in the chair if the administration is conducted therein. Also remember that children prefer to sit while being anesthetized—they are less frightened than if laid down; one can always let them sit for the first few breaths, and as soon as the higher consciousness is lost lay them down. Remember, moreover, that the pain of fear is worse than any physical pain, and that the less a patient is, from youth, amenable to reason the more is he susceptible to fear, therefore deal tenderly with the little ones. But if you do put a patient in a chair, place him so that there is no obstruction to respiration and no fear of the respiration being obstructed during the administration; that is, he should be made to sit erect with the head erect on the spine, so that the floor of the mouth is horizontal, for if the head be thrown back, in the favorite position with dentists and barbers, the neck muscles are put on the stretch and the trachea becomes pressed upon in consequence, and there is a risk of the respiration being obstructed. Not only this, but any saliva, blood, or other fluids gravitate backward and are either swallowed or inhaled, in the former case giving rise to subsequent vomiting, and in the latter to laryngeal spasm. If, on the other hand,

the head be tilted forward the chin is apt to press unduly upon the trachea and cause respiratory embarrassment in this way; in either case serious cyanosis, etc., will result, and with the head thrown back "false stertor" is heard early in the anesthesia, before the patient is fully anesthetized, which may lead you to misjudge the depth of anesthesia and stop the administration too soon.

The dose depends upon what operative procedure you wish to do and upon the weight and fitness of your patient. Always dose according to weight—that is, a big, heavy person will require more, other things being equal, than a small, thin one; allow more for alcoholics and smokers and those who are intemperate in anything, and allow less for the anemic or breathless person. A good average dose for an average adult is 5 cubic centimeters; but, of course, the dose will vary with the degree of dilution, and if the face-piece does not fit accurately there will be considerable admixture of air and he may require a further dose, or you may be unable to obtain a satisfactory anesthesia at all. It is better to give a full dose and rapidly induce anesthesia, allowing no admixture of air beyond that which is already in the inhaler, than to economize your drug and make up for smallness of dose by prolonged rebreathing.

The after-effects vary in direct ratio to the amount of rebreathing to and fro allowed; also on the amount of previous preparation and to some extent the dose —after large doses or prolonged administration, during which much rebreathing has been allowed, shock and faintness are likely to be met with. Another important point is the after-treatment; for instance, if a patient be moved too soon he is more likely to suffer from vomiting and headache, but if he be allowed to remain in the recumbent posture for a quarter of an hour or more after the administration he is less likely to have after-effects. The author's average at the hospital among all classes of patients is that about three in twelve have after-effects; many of these, however, come to the hospital soon after a meal and otherwise unprepared. In private practice vomiting is quite uncommon.

Provided that the administration is conducted in the way described—that is to say, that no outside air is admitted to the inhaler after the air valve has been closed —the following signs are observed: (1) Breathing deepens and becomes more rapid—this alteration in the character of the breathing affords a most valuable guide as to the degree of anesthesia attained, and results not so much from the action of the ethyl chloride *per se* as from the restriction of oxygen, the oxygen originally in the inhaler being soon used up, with consequent stimulation of the respiratory center. (2) A little later one feels by the finger under the patient's chin some vibratory movements of the larynx, and a moment later still these vibrations become more and more audible, until (3) the characteristic laryngeal stertor is observed. At this point the administration should be stopped—*i.e.*, if the stertor be true tracheal stertor and not due to faulty posture causing obstructive or "false" stertor. (4) About the same time that the breathing deepens the patient's color improves and the face becomes suffused, and he looks a healthy, pink color. There is some controversy as to whether the blood-pressure is raised or depressed during the induction of anesthesia. The author holds the middle opinion, viz., that at first, owing to the increased force and frequency of the pulse which is observed in nearly all cases, the pressure tends to rise, but almost at the same time there is some vasomotor paralysis in the cutaneous vessels; these accordingly dilate to a considerable extent, and thus the pressure is equalized, or even tends later in the course of the administration to fall. But this dilatation which causes the suffusion of the face also causes perspiration in many cases, and in others, again, considerable bleeding from the wound, especially after the removal of adenoids and tonsils, particularly if the anesthesia has been pushed and the vasomotor paralysis thus increased. It does not matter much in actual practice whether the pressure rises or falls, for in the event of any accident happening one has no time to waste over examining the pulse. It has been established that ethyl chloride kills, not by paralyzing the heart, but by paralyzing the respiration, the chest becoming fixed in overexpansion; thus, in restoring a patient who has been overdosed, nitrite of amyl, for instance, would be useless. (5) About the same time, or a little later than that

at which the face becomes suffused—usually from forty to fifty seconds—the globes of the eyes become fixed, often after some preliminary nystagmus, and usually in the position of convergent squint downward. (6) A moment or two later the pupils dilate, and if the anesthetic be not now removed (7) the light and the corneal reflexes disappear, the pupils becoming very dilated and fixed. If air be now admitted and the anesthesia be lightened or continued in a lighter stage the pupils again contract, but the author has seen in several cases, even after the corneal reflex has returned, the pupil remain wide and insensitive; this is unaccountable, and cannot be explained any more than why in a few other cases the pupil does not dilate, even although the patient be deeply anesthetized. These irregular cases only again impress upon us the necessity for considering all the points of available evidence before making up our minds as to a patient's condition.

To repeat, although in about 90 per cent of cases the signs of deep anesthesia are stertor, fixity of the globes, and dilated pupils with loss of ocular reflexes, yet these signs must not be taken as invariable, and one must always be on the watch for unusual symptoms. As a rule there is but little salivation during induction, but often one meets with profuse secretion of saliva for no obvious reason —this is a point worth remembering in arranging the patient's position. It is never wise to push the anesthetic in the case of fat subjects; they bear deprivation of oxygen badly and are more likely to suffer from shock; also their respiratory passages are as encroached upon by fat overgrowth on the inside as are the skin and cutaneous tissues, and the air-ways are more likely to become occluded. Never administer ethyl chloride without first placing a wooden dental prop between the teeth—this not only keeps the air-way free, but is also a safeguard in case one may have to insert a Mason's gag to expedite means of resuscitation.

Some anesthetists have stated that ethyl chloride is unsuitable for certain special operations—*e.g.*, for breaking down joints and for setting fractures, etc.—because they say they cannot obtain complete muscular flaccidity; but that probably is merely a question of degree of anesthesia, and if the anesthetic be administered with a free admixture of air and is pushed to fixity of the globes, dilatation and fixity of the pupils, with loss of corneal reflex and with stertorous breathing, there will be complete muscular flaccidity in the vast majority of cases.

With regard to contraindications, in the following conditions ethyl chloride should not be administered: diseases of the larynx; inflammatory lesions and tumors in, or adjacent to, the respiratory passages; goitre; all conditions giving rise to urgent dyspnea; and in long operations. Time does not permit the author to mention other points—*e.g.*, treatment of dangerous symptoms, etc.; its use with other anesthetics and for long and for special operations, especially tonsils and adenoids, except to remind us that in these last the risk is increased if the coughing reflex be abolished, and that under ethyl chloride this occurs very rapidly.

THE TREATMENT OF ECLAMPSIA.

In the *Montreal Medical Journal* for December, 1904, EVANS asserts that the conservative treatment is directed toward controlling the convulsions and securing the elimination of the toxin, leaving the pregnancy to be dealt with when the os has dilated sufficiently to permit delivery by forceps or version. What might be called the active treatment is first to clear out the uterus as rapidly as possible, and then to endeavor to secure elimination of the toxin.

Believing the convulsions to be due to toxic nerve irritation, resulting in spasm of the vasomotor system, nerve sedatives and vasodilators are administered in order to secure control. The Germans use but few drugs—chiefly morphine and chloroform—while many, as in the Giessen clinic, use no narcotics.

The nerve sedatives employed are chiefly chloral, morphine, and chloroform. Both English-speaking and German physicians employ chloroform to control the actual convulsion, while many limit its use to the time of delivery. It is believed to relieve the venous congestion by lowering arterial tension.

Morphine is usually administered in large doses, ¼ to ½ grain. It is believed to inhibit metabolism, thus stopping the formation of toxin, and to overcome the vasomotor spasm, thus favoring urinary

secretion. Veit, who thinks that generally an insufficient amount is used, has given as much as three grains in four hours, but as a rule the maximum dose in twenty-four hours should not exceed two grains. Berkeley, who has canvassed the obstetricians of Great Britain upon the treatment of eclampsia, states that the majority of English physicians employ it. He quotes Löhlein, who has collected 325 cases, with a mortality of 13.3 per cent where this drug was used.

Chloral is employed by a few Germans, but the majority of English physicians have abandoned it. Charpentier recommends its use in large doses, giving as much as half an ounce in twenty-four hours. Many concede that it may be of use in the milder cases, but should not be employed when coma is marked.

The vasodilators employed have been numerous, and not a few physicians pin their faith to various of these as panaceas for eclampsia; but few of them have many friends, and most of them have but a few friends.

Pilocarpine, at one time popular, has been abandoned as uncertain and often dangerous. Veratrum viride is employed chiefly in America. It acts by dilating the arteries and depressing the heart. It is said to promote the activity of the skin and to favor diuresis. It is best administered hypodermically, 20 minims of the fluid extract as an initial dose, followed by 10-minim doses at intervals of half an hour, till the pulse is kept below 60. It is a powerful cardiac depressant, and is contraindicated when the pulse is weak and irregular. It is difficult to form an opinion as to the value of this drug, for its friends claim too much for it, and its failure in the hands of men of large experience and of good judgment does not inspire faith. The author's experience is that it has not been any more successful than other drugs of its class, and he has practically abandoned its use.

Helme, of Manchester, in May last suggested the employment of subarachnoid puncture in eclamptic convulsions, believing that the convulsions and stupor are dependent upon increased intracranial pressure. In November, 1903, he successfully treated a severe case by this means. He withdrew a drachm and a half of cerebrospinal fluid by lumbar puncture, and mentions that the fluid escaped rapidly as if under considerable pressure.

Kröning, of Jena, in the *Centralblatt für Gynäkologie* of October 1, 1904, has a paper on this subject in which he fails to notice Helme's case, seeming to have been independently led to the same conclusion. In view of the marked increase in the blood-pressure of eclamptics he was led to investigate the degree of pressure upon the cerebrospinal fluid in these cases, hoping thus to possibly find some therapeutic results by removing a certain quantity should the intracranial pressure be found to be augmented. He reports three successful cases so treated. The first of these was a severe case and may be referred to in some detail. To the needle used in the lumbar puncture was attached a Quincke's apparatus for estimating the pressure under which the cerebrospinal fluid escaped. The pressure was found to rise between 430 and 540 millimeters, water pressure. On withdrawing 20 cubic centimeters of fluid the patient had a convulsion which raised the intracranial pressure to over 600 millimeters, the capacity of the Quincke apparatus. In all he withdrew 37 cubic centimeters of cerebrospinal fluid, the intracranial pressure then varying between 80 and 120 millimeters. No convulsions occurred after this time. The patient was then delivered by vaginal Cæsarian section. The other cases were identical. He concludes his paper by stating that no conclusions can be drawn from these cases, as in all three other important therapeutic means were employed. But he is certain of two points: that no harmful effects resulted in any of the cases, and that the general satisfactory condition of the patients seven to eight hours afterward could not be wholly ascribed to the withdrawal of the cerebrospinal fluid.

From the results reported it is apparent that further investigation along this line is warranted.

The elimination of the toxin is promoted by means of venesection, purgation, salines, and hot packs and baths.

Venesection is of value in sthenic cases, where cyanosis is a marked symptom. It is also indicated when the right heart is overdilated, and engorgement of the lungs is present. Williams thinks that it should be employed in all cases where the fits continue after delivery of the child. He

withdraws 500 cubic centimeters of blood, and injects the same amount of saline solution.

Many, believing that toxin is generated in the digestive tract, urge purgation. The same method of treatment is urged by others in order to favor the elimination of the toxin from the system in general. The Germans do not pay so much attention to active purgation as do the English and French. Magnesium sulphate is the favorite drug, but croton oil is used by many. The author is strongly in favor of the saline purgation, as he thinks it favors elimination of the toxin.

The Germans generally rely on bowel and stomach washing to clear out the digestive tract. Usually warm saline solution is employed in large quantities, and the treatment is repeated at intervals of four to six hours.

DISEASES OF THE SKIN CONNECTED WITH ERRORS OF METABOLISM.

BULKLEY in the *Medical Record* of November 26, 1904, says that we may sum up our knowledge in regard to diseases of the skin dependent upon errors of metabolism as follows:

1. Metabolism represents the changes occurring in the system, whereby nutritive materials and oxygen are transformed into living tissue, and retransformed into waste products, while during these processes their potential energy is being given off in living force and heat.

2. As healthy cell action and transformation is produced and maintained by perfect metabolism, so when there is perverted metabolism the structures in various parts of the body must suffer, and this we call disease.

3. As every cell in the body constantly takes up and gives off material, so the results of metabolism can be affected by the normal or abnormal action of every living cell in the organism.

4. Metabolism is, however, principally affected by (1) the kind of nutriment taken; (2) the action of the digestive organs and ductless glands; and (3) the action of the nervous system.

5. Certain skin lesions, or eruptions, have been credibly reported as connected or dependent upon the generally recognized metabolic conditions of (1) gout; (2) rheumatoid arthritis; (3) diabetes; (4) obesity; (5) scrofulosis.

6. As yet no absolute statements can be made as to the necessary connection of the two, for the same eruptions occur in several of the metabolic affections.

7. The idiosyncrasy of the patient, and many causative elements, external or internal, nervous, etc., often determine which form of skin disturbance or alteration shall take place.

8. Errors of diet, disorders of digestion, faulty excretion, and nervous derangement, which have all along been recognized as causative elements in many diseases of the skin, often find their ultimate expression or mode of action through the faulty metabolism induced thereby.

9. Metabolic errors are exhibited in the excreta from the lungs, skin, intestines, and kidneys; and of these, the urine best affords a satisfactory indication, as it represents nearly one-half of the total excreta, and practically all of the nitrogenous and soluble mineral substances, together with about one-half of the water expelled from the system.

10. Complete and minute urinary analysis is a very great aid in discovering metabolic errors, and in establishing proper therapeutic measures for the cure of many diseases of the skin.

INFANTILE DYSENTERY.

KNOX contributes to the *Journal of the American Medical Association* of December 24, 1904, an account of a study of this disease. He believes the key-note in treatment is promptness. If the food can be stopped and the alimentary tract emptied within a few hours after the onset of symptoms, most infections can be aborted.

The results of antidysenteric serum treatment were disappointing. It, too, was apparently helpful in proportion to the shortness of the time which elapsed between the beginning of the illness and the injection of the serum. Its use is perfectly harmless under antiseptic precautions.

The prophylactic injection of the serum into susceptible babies may prove to be an advisable procedure.

The alterations in the body produced by the action of the dysentery bacillus may

be those of an acute toxemia only, or in addition there may be set up more or less destructive lesions of the lower bowel. In this latter process streptococci and other organisms may play a part. The constant change noticed in all cases was the enlargement (serous infiltration) of the mesenteric lymph glands.

FATTY DIET AND ACETONURIA.

It is not infrequently assumed that in a diabetic diet the fats are the one element which do no harm. This view is, but only to a limited extent and with important qualifications, confirmed by Dr. E. P. Joslin, who, in the *Journal of Medical Research* for October, reviews critically former work regarding the influence of various fats on the formation and excretion of acetone, and gives a report of his own experiments, the practical bearing of which on the proper diabetic diet is obvious. Most previous work is invalidated by lack of proper control of the diet, which is usually described merely as strictly albuminous and fatty, or that plus varying amounts of carbohydrates—descriptions which tell nothing, inasmuch as both albumin and carbohydrates diminish acetonuria. To be of value such experiments must take account of the B-oxybutyric and diacetic acids and acetone, all being interrelated bodies to be estimated together; and the pulmonary excretion of acetone must be measured, as much as seven per cent at times escaping in the breath. In general, no demonstration of the amount of absorption of the fats administered has been furnished; and soaps have been used, though the power of alkalies to increase acetonuria is well known; and no account has been taken of the acetone-inhibiting power of the glycerin component of neutral fats.

While numerous observers have shown that the addition of large quantities of fats to a mixed diet results in greatly increased acetonuria, Geelmuyden showed that this was largely conditioned by the simultaneous administration of carbohydrates, an acetonuria of 223 milligrammes artificially produced in a healthy individual by an albumin-fat diet falling to one of 26 milligrammes as soon as 150 grammes of carbohydrates were taken; and Schwarz saw an acetonuria disappear entirely within seventy-five minutes after the ingestion of 150 grammes of glucose. If with healthy individuals the diet be merely albumin and fat, while matters are simplified, it is, nevertheless, as Geelmuyden has pointed out, important to know just how much of each is given, as the acetonuria rises with a decrease in the albumin, by reason, Geelmuyden believes, of the liberation of considerable amounts of carbohydrate material in the metabolism of the albumin, and to large quantities of albumin sparing the consumption of the body fat. Examined from this point of view, the literature offers few satisfactory observations. Geelmuyden's experiments further show in the plainest manner that butter increases acetonuria; also the great increasing effect of inanition, an acetonuria of over 300 milligrammes increasing when the total calories were reduced from 3000 to 700, though the fat was diminished at the same time from 300 to 30. When more than 100 grammes of fat was given, at least 80 per cent, and usually 90 per cent, was absorbed. Geelmuyden further showed that during phloridzin diabetes in a dog, acetonuria increased under sodium butyrate, but was prevented or lowered by a neutral (beef) fat. But no determination was made of the absorption factor. Schumann-Leclerq and Hagenberg also note the increase of acetone excretion after the use of butter.

The relation between fats and acetone excretion in diabetes is universally acknowledged. Thus Schwarz found this increase under the use of butter during a strictly albuminous regimen; Waldvogel, the same following the administration of oil; while Lepine saw an increase in diacetic acid after the use of cream. Grube found butter to have a marked action in the direction of increase; a moderate increase occurred with cream, but none with hog fat. Schwarz's cases were the most thoroughly studied. He concluded that not only butter with its volatile fatty acids, but also other kinds of fat poor in those acids, increase the acetonuria. Butter, he believed, increases it more than fats composed of the higher fatty acids, and oil he thinks acts chiefly by its content of volatile fatty acids. On this Joslin remarks that the first conclusion is amply warranted by the facts, but that the others

have to be qualified by the lack of proof as to extent of absorption. Schwarz also studied in diabetics the effects of palmitic and oleic acids, and of sodium stearate, valerianate, caproate, butyrate, propionate, and bicarbonate; but these experiments again are inadmissible as not taking account of all the factors.

To eliminate the foregoing sources of error, Joslin carried out twelve experiments on men, each experiment lasting four days, on the second and third of which nothing was taken but a liter of water. In most cases the stools were examined for fat; in all the acetone was estimated in the breath as well as in the urine. During the starvation days tests were made with oleic, stearic, palmitic, and butyric acids, sodium palmitate and bicarbonate, tristearin, triolein, and glycerin. Joslin considers that his experiments show that conclusions as to the action of various fats (whether neutral fats, fatty acids, or soaps) upon the elimination of acetone are of little value without proof of their absorption. Neutral fats, whether of the lower or higher fatty acids, do not increase acetonuria, their glycerin component sufficing to prevent it. Oleic acid produces marked acetonuria; butyric does not produce such result. The poor absorption of palmitic and stearic acids suffices to explain the negative result obtained in this and other experiments. Sodium palmitate produces a marked acetonuria not explicable merely by the presence of the alkali.—*Medical Record,* Nov. 26, 1904.

THE "YOLK CURE" IN THE TREATMENT OF THE UNDERFED.

To the *Medical Record* of December 1, 1904, STEIN contributes a paper in which he speaks in words of praise of this plan. He believes there is one fact we may be assured of, namely, that the yolks of eggs are well tolerated by almost every underfed individual. Yolks are therefore to be the basis of the nourishment of the underfed. It is for the clinician to determine in what kind and in how much of a menstruum the yolks are to be ingested. Here is where the difficulty arises. In some cases it will be found the yolks are best administered in milk, coffee, or tea; in others in the form of a modified egg-nog. Their beneficial effect in many instances is only noticeable when they are taken together with certain carbohydrates in suitable amounts. Taken in soup or broth, together with beef, lamb, or chicken, they often give rise to bodily improvement, which does not ensue in the same degree when other types of ingesta serve as vehicles. Again, in other cases, especially in those of phthisis pulmonum, an ordinary mixed diet in which the fat substances are merely replaced by the yolks is frequently all that is necessary to stimulate the assimilative properties and to cause increase of weight, vigor, and resistance.

If the patient who is not in the last stages of a consumptive affection does not gain in body weight while he is under the "yolk cure," the latter as a rule is not properly executed—that is, the food which is partaken of together with the yolks is either not the right kind or is ingested in amounts not suited to the alimentary condition. While the proper kind of nutriment favors the specific yolk action, food wrong in character or amount, or in both, retards or suppresses the absorption of the yolk constituents.

On the other hand, the yolks facilitate the digestion of certain amounts of carbohydrates (diastasic ferment) and that of comparatively large quantities of proteids (stimulation of gastric secretion). They do not seem to possess properties which render other fats added to the food easy of absorption. Again, impaired fat absorption appears to be directly responsible for the underfed state in a rather large percentage of cases. As experience (fecal examinations) has shown that yolks are almost as completely absorbed in most instances of disease followed by loss of body weight (in not too-far advanced stages) as they are in the normal individual, all fatty substances in the food should be replaced as completely as possible by yolks. When improvement has ensued, it might not be necessary to insist upon yolks as the sole fatty nutrient in all instances; some other fats, in limited amounts, may be added to the diet, or what seems more rational, one or more days on which the yolks do not form an important part in the diet, but on which the common fat substances are ingested in limited amounts, may be intercalated

every week. On the other days, however, the yolks should continue to furnish the bulk of the heat units, or at least they should form the sole fatty matter entering the organism with the diet.

A sample of a yolk menu destined for a consumptive weighing 110 pounds (950 kilogrammes) whose normal weight ought to be 140 pounds (63.63 kilogrammes), but whose alimentary system admits the ingestion of some carbohydrates and of almost normal amounts of proteids, is given in the following. This patient should obtain food to the value of 35 calories per day per kilogramme of body weight—that is, 1750 calories in the twenty-four hours.

	No. of yolks.	Calories yielded by yolks, approximately.	Total calories, approximately.
Breakfast:			
250 Cc. skim milk, with 4 yolks	4	200	290
30 grammes wheaten toast	...	.....	75
Early lunch:			
Cup of coffee, 2 yolks	2	100	100
Dinner:			
One plate of soup, 4 yolks	4	200	225
Beef, very lean, 150 grammes	...	.....	125
30 grammes wheaten toast	...	.....	75
4 o'clock:			
250 Cc. skim milk, 30 Cc. whiskey, 3 yolks	3	150	370
Supper:			
Porridge of farina, or rice, 100 grammes, 1 yolk, skim milk	1	50	350
Apple sauce, 75 grammes	...	...	30
At bedtime:			
Nightcap (90 Cc. hot water, 10 Cc. whiskey, 1 yolk, teaspoonful granulated sugar)	1	50	110
Total	15	750	1750

In a prolonged yolk diet, the proportion of the various types of nutritives may, and must, be altered according to the prevailing alimentary circumstances; a dietary as outlined in the foregoing, however, may be looked upon as a standard in the suitable cases. The whole egg may be well tolerated in certain cases; when whole eggs are employed extra yolks may be added to them. In order to avoid monotony and aversion, the latter being invariably the consequence of the long-continued use of the same kind of meat or of the same kind of farinaceous material, a variety of dishes in which yolks may be incorporated should be devised.

All yolk dishes must contain salt in sufficient amounts. Flavoring and seasoning substances may be added to the various articles of food as long as there is no contraindication to their employment; it should always be borne in mind that spices are not inert substances, and that their use may as well retard as increase digestive activity, as the case may be. As a general rule, patients under the "yolk cure" are not subject to obstipation. Mild laxatives may be employed in cases tending to this condition.

The "yolk cure" in its various modifications has nothing in common with the legion of unnatural and irrational feeding systems extolled here, there, and everywhere. It is not a fad with the author, and he hopes it will not become one with others. It has its limitations to be sure, but if conscientiously employed in certain forms of malnutrition, it will increase the body weight and restore bodily resistance when other dietary regimens have proved decided failures.

X-RAY THERAPEUTICS.

EWART writes of this plan of treatment in the *Edinburgh Medical Journal* for November, 1904. He thinks that there can be no doubt that malignant growths can be influenced by the *x*-ray, but whether this method of treatment is advisable is quite another matter. Bearing in mind the superficial nature of the influence of this agent, and further, the diffuse and uncertain nature of secondary deposits, one cannot conceive how anything of a beneficial nature can be expected from this method of treatment. Rodent ulcer; though undoubtedly a malignant growth, on account of its superficial character and absence of secondary deposit, naturally falls within its sphere of influence. Sarcomata should not, on account of their vascularity, be in any way affected. If the growth is more chronic and less vascular, as in the spindle-celled variety, some influence might be expected. Actual clinical experience seems to bear out the above supposition, though the extent of such benefit is scarcely sufficient to justify treatment on these lines. The use of the rays in hopeless cases does certainly seem to relieve pain, though for expediency and efficiency it cannot be com-

pared to a hypodermic injection of morphine. In rodent ulcer, therefore, it has its greatest sphere of usefulness, and certainly produces a very soft and almost invisible scar. Recurrences unfortunately occur in nearly 50 per cent of the cases supposed to be cured by this means, a percentage which is greater than in those treated by the knife. Further, operation is quick and in the end less expensive; so that, taken altogether, even in this form of malignant growth, whose characters are exactly suited to the sphere of influence of the rays, they have a very restricted value.

Perhaps, where the patient is too feeble, or the growth too extensive for removal, or has recurred repeatedly after removal, the rays find their true use.

In other conditions of the skin, such as eczema and tinea sycosis, we have most remarkable and rapid results; in the former, however, relapse is almost inevitable, while in the latter the result appears to be permanent. It is possible that a chronic eczema, treated by those means and associated with local applications and constitutional means, may, in selected cases, give good results. Lately, in leucocythemia, marked benefit has been achieved by gentle *x*-ray treatment; and, according to reported cases, the spleen has diminished in size to a remarkable degree, the constitutional condition of the patient becoming much improved.

THE TREATMENT OF THE MUSCULAR, HEMIC, AND MECHANICAL FACTORS IN HEART DISEASE.

In the *Edinburgh Medical Journal* for November, 1904, MORISON writes as follows:

The indications for the treatment of the hemic factor in heart disease concern its quality, its quantity, and its distribution. The quality of the blood may be defective in its elaboration and its oxygenation, or contaminated by infective agents and processes. We are constantly reminded of the importance of a normal elaboration of the blood by witnessing the effect upon the heart, whether organically diseased or no, of various forms and stages of anemia. Although it has not yet been demonstrated, it is possible that some graver forms of anemia are dependent upon infective contamination, but the constantly observed anemia of more or less overworked or improperly fed adolescents and young children points to defective elaboration as the secret of the majority of the anemic states with which we have to deal. Sufficient rest, simple but sufficient fare, and the well-known hematinics serve to remove the cardiac weakness due to such anemic states. It is their resistance to these measures, their ingravescent deterioration, with distortion of the blood elements, and frequent termination in death, which serve to indicate the symptomatically termed pernicious anemias. The essential cause of these is so imperfectly known at present that we cannot speak very rationally of their treatment. It is interesting, however, that arsenic, which has at times proved of value in such cases, is also frequently needed as a stimulant hematinic in simpler anemic states, before the latter will respond to treatment. Unlike simple anemia, which so frequently affects the young, and is an imperfect development of blood, many of the pernicious anemias occur in late middle life, and appear to be in some measure a senile degradation of blood.

During a recent debate on the treatment of cardiac failures at the Medical Society of London, Sir Douglas Powell dwelt upon the importance of a due oxygenation of the coronary circulation, and thus chiefly justified the use of oxygen gas as a therapeutic agent. He pointed out how the cardiac muscle was the first to receive the freshly oxygenated blood from the lungs, to which fact it no doubt owed much of its perpetual vigor. The point is not unimportant, and was discussed by the author at some length in articles on the neuromuscular and hemic factors in the circulation, which were published in the *Practitioner* some years ago, and he again referred to the point in 1897.

In connection with pneumonic states, in which a considerable portion of lung is involved, and the function of the organ thus abrogated to that extent, the author agrees with Sir Douglas Powell, that a moderate supplementation of the oxygen by the gas-cylinder is useful and beneficial to the heart's action, and indicated chiefly for the reasons stated. But we

know that the blood can only hold a certain amount of oxygen, and that it does not exhaust the supply provided by the air we breathe. It is fortunate, therefore, that the poor who cannot afford the luxury of cylinder-gas are, in such straits, not much worse off than the rich who can, so long as the nurse can see the sky through the chimney, and knows how to open a window without freezing the patient.

TRACHOMA.

In the course of an article on this subject in the *Medical Record* of December 31, 1904, BARDES tells us that the only satisfactory way to treat trachoma is by surgical procedure. The operation most in vogue is that of expression, which is accomplished with Knapp's roller forceps or with Noyes's angular forceps. If the conjunctiva is dense and firm, it is necessary to scarify it before the granules can be readily expressed. The operation of expression is extremely painful and is usually done under ether, a procedure to which many parents object. For this reason many prefer to have their children treated with the tedious and uncertain astringents. It was to overcome this popular prejudice against operating that the author substituted cocaine anesthesia for general narcosis. The treatment of more than a hundred cases by this method justifies his belief in its efficacy. Cocaine expressions are attended with no pain, and but few sittings are required in order to effect a cure.

Complete local anesthesia is obtained by rubbing into the conjunctiva a 20-per-cent solution of cocaine and applying to the lacrimal opening some vaselin to prevent the escape of the cocaine into the nose. As soon as the lid is insensible to pain it is grasped with an expressing forceps, and with a stripping motion, repeatedly executed, the granules are crushed. The operation should be sufficiently energetic to obliterate the granules, without causing an undue reaction, otherwise adhesive bands may unite various parts of the bruised conjunctiva, and the contraction of the lids that follows acts precisely like the shortening produced in the cicatricial stage of trachoma. This is one of the things to be prepared for, when removing all the granules at one sitting. It is preferable not to attempt too much at one time.

After the squeezing a one-per-cent solution of silver nitrate or a solution of an organic salt of silver can be rubbed into the conjunctiva, and the patient instructed to call again as soon as the soreness has left the lids.

Inasmuch as trachoma is usually found in children in poor health, it behooves us not only to apply local treatment, but to attend to the general health as well. Plenty of outdoor exercise is necessary, together with a liberal supply of milk and eggs and other wholesome food, and possibly cod-liver oil or syrup of the iodide of iron internally.

The personal hygiene of the sufferer should be improved wherever feasible, and the syrup of the iodide of iron given internally.

THE TREATMENT OF PARENCHYMATOUS NEPHRITIS.

Sir DYCE DUCKWORTH in the *Clinical Journal* of November 23, 1904, in lecturing on this subject says of the treatment of acute nephritis that a warm bed, bread and milk diet, or milk and barley water, are most useful. Whey is of special value in acute nephritis; there is no better drink. The patient may take two or three pints of whey in a day. He may also have arrowroot, bread and butter, biscuits, and if he is a very hungry individual he may have a little mashed potato. Do not give these patients meat or strong foods. See that the nursing is properly done and that your orders are carried out, and then you will find the smoky urine clearing day by day, the albumin diminishing, and the skin beginning to act, especially if you employ appropriate remedies. The remedies are very simple. If there is much blood in the urine you may dry cup the patient. If he is strong, you may employ wet cupping, taking 12 to 15 ounces of blood from the loins. This is specially effectual, because there is a direct vascular connection between the skin of the loin and the interior of the kidney. Warm poultices on the loins are also of great use. Antimony in the form of antimonial wine is very good in half-drachm doses, combined with nitrous ether and solution of acetate of ammonia. That is all that is wanted, with the exception, perhaps,

that at the outset you should give a calomel purge, two grains of calomel and half a drachm of compound jalap powder, and afterward be content with giving every other morning two teaspoonfuls of the confection of jalap. This clears the renal tubes and diminishes the dropsy in the limbs and face. If the urine does not clear up in a few weeks time on this treatment, you may review the state of the patient's constitution, and see if there is any special cause for the failure of these measures. Ascertain if there is any family delicacy which will explain the rebelliousness to treatment. Cases may go on in spite of treatment and drift into the chronic form, and that, according to the patient's constitution, is more or less grave. We see many of these, but these patients cannot be kept long enough in hospital to get soundly well, and that is one of the limitations of hospital practice. In St. Bartholomew's Hospital they are kept longer than in any other hospital in London, thanks to the generosity and goodness of the governors. Get your patients soundly well, especially of their albuminuria. But in spite of the advantages at this hospital, many of these patients go out with a little albumin in their urine, and they go back to work again, and to their drink again, and expose themselves to one bad influence and another, and probably they will have another acute attack.

The next medicine is iron, which is of the greatest use, generally given as ammonio-chloride of iron in the form of Basham's mixture, sometimes combined with digitalis. Nearly all of these patients become anemic. The amount of albumin lost is very little; a single egg taken each day would more than supply the loss of albumin in the urine. But this constant drain appears to have some power of impoverishing the system. The question has been raised whether there is an internal secretion of the kidney, apart from the functions of the tubular system, which has to do with the general nutrition of the body; but this is an abstruse matter which does not concern us at present. We do not know of the existence of any internal secretion, but patients become cachectic and anemic apparently quite beyond the degree which would be accounted for by the mere loss of albumin in the urine. But iron seems to be of great help in restoring the blood to its proper state and diminishing the quantity of albumin passed. Another medicine is fuchsin or rose-aniline, in doses of from one to ten grains a day. It sometimes diminishes the flow of albumin, and has the merit of doing no harm even if it does no good. Two of the cases which the author reports are getting on well, and probably will recover.

There are many surprises in store for us in the course of nephritis, for such patients will often live beyond the period which we should apportion for them, but much depends on their environment, and the way in which they live and protect themselves.

THE TREATMENT OF ENTERIC FEVER.

In delivering the Bradshaw Lecture of 1904 at the Royal College of Physicians of London, Dr. F. Foord Caiger chose a subject which will prove of interest to all practitioners of medicine. The case mortality of enteric fever in England is still as high as 15 per cent, and in each year between 5000 and 6000 persons die from the disease. A résumé of the treatment of so prevalent a malady by a physician who has had such a large experience as Dr. Caiger, combined with his own personal impressions, cannot fail to be of considerable practical value. We only intend to draw attention to some of the more prominent points in Dr. Caiger's admirable lecture, but would recommend to our readers a careful perusal of the full text, which is published in the *Lancet* of November 26, 1904. The remarks on the "specific treatment" of enteric fever will naturally be read with interest. The remarkable success which has attended the treatment of diphtheria by the injection of antitoxic serum and the artificial immunity against smallpox conferred by vaccination have not unnaturally encouraged the hope that similar results might be attained in the case of enteric fever. Unfortunately, such favorable anticipations have not yet been realized. Professor Chantemesse has produced a serum with which a remarkable success in the treatment of the disease is said to have been achieved. As to the nature of this serum there is at present some uncertainty, and Dr. Caiger re-

marks that any inference as to the efficacy of the serum is unfortunately weakened by the fact that various other remedies, such as baths, packs, and cold effusions, were used in addition to serum therapy whenever their employment appeared to be indicated. Dr. A. E. Wright's method of antityphoid inoculation is also carefully criticized. The success attendant on this process has been a source of considerable difference of opinion amongst those who have had practical experience of its use. Dr. Caiger refers to the inquiry undertaken by the Royal College of Physicians of London. He expresses the opinion that the further investigations now being made with the object of effecting an improvement in the vaccine and of extending the knowledge already accumulated as to the best and most appropriate dosage will be productive of better issues than have hitherto been reached. We also believe that the results obtained during the South African war and in various parts of the Indian empire warrant a further trial of the vaccine, and that Dr. Caiger's hopes will be fully realized.

Turning to the treatment of typhoid fever as commented on in this lecture we find many interesting and instructive remarks. Dr. Caiger is a firm believer in the cold-bath treatment when properly carried out, and adduces a large amount of evidence, in addition to his own experience, in support of this therapeutic measure. He expresses himself in no doubtful terms on this point, and the large majority of physicians who have had charge of hospital wards will, we think, agree with him. He maintains that in view of the remarkable success which has been achieved abroad with this form of treatment those in charge of hospital patients suffering from typhoid fever incur some responsibility in withholding its use. The method is unfortunately attended with certain difficulties, which occur more particularly in private houses. If, however, the extreme desirability of entering upon this line of treatment be explained to the patient and his relatives, we believe that the baths will meet with more favor than Dr. Caiger anticipates.

The observations on the various drugs which are employed in the treatment of this disease are also of considerable value. Numerous remedies of the antiseptic class have been advocated, and the lecturer observes that during the last fifteen years he has tried most of these remedies, but in the majority of instances he has been disappointed with their action. He refers with some confidence, however, to a few drugs, notably the essential oil of cinnamon. The favorable effects attending its administration are: (1) The temperature in the majority of cases ran at a lower level than is customary in enteric fever, especially in cases brought under treatment in a comparatively early stage; (2) the patients remained for the most part drowsy throughout their illness, and as a result mental rest was secured and delirium was less frequent; and (3) intraintestinal decomposition was controlled to an extent which was very striking. The symptomatic treatment of typhoid fever also receives due attention. The management of hyperpyrexia, sleeplessness, delirium, diarrhea (or the converse, constipation), abdominal pain, and cardiac collapse frequently presents great difficulties, and any one of these may add considerably to the difficulties and danger of the case. Great stress is laid on the importance of securing mental rest for the victim of enteric fever, and we agree with Dr. Caiger that in some cases it is no exaggeration to say that treatment of the mind is the most cogent indication throughout. The administration of opium is often of great value when mental symptoms are prominent; the drug is best given in the form of the tincture, five or six minims being taken every four hours.

Finally, Dr. Caiger considers the occurrence of hemorrhage and perforation of the intestine. With regard to the latter complication he declares himself strongly in favor of operation, and is in complete agreement with those who hold that a moribund condition of the patient should be the only contraindication. He further urges that the operation should be performed as soon as possible after the perforation has occurred. The accumulated experience of the last few years has clearly shown that if surgical treatment be postponed until reaction has set in, not only may the chance of a favorable issue be allowed to slip, but the opportunity for operation also.

Dr. Caiger is to be congratulated on having delivered a lecture full of valuable

information. He deals with the treatment of a disease which is rarely absent from the medical wards of the hospitals in large towns, and which occasionally spreads disaster in the form of extensive epidemics. Prophylactic measures are, of course, to be carried out as thoroughly as possible, but curative treatment also is at present indispensable, and the Bradshaw lecture of this year will for a long time stand out as one of the best dissertations on the treatment of typhoid fever which medical literature possesses.—*Lancet*, Nov. 26, 1904.

CLINICAL OBSERVATIONS ON THE ANESTHETIC EFFECTS OF METHYL OXIDE, ETHYL CHLORIDE, AND THE SO-CALLED "SOMNOFORM."

In concluding a valuable paper on these anesthetics in the *Lancet* of November 26, 1904, HEWITT speaks first of *methyl oxide*. When methyl oxide is largely diluted with air the mixture, which is not unpleasant to inhale, does not produce a very satisfactory form of anesthesia. Mixtures sufficiently concentrated to produce satisfactory anesthesia are too pungent to be pleasant. As compared to the anesthesia obtainable by customary means, that produced by methyl oxide is of a light type and is not uncommonly followed by nausea and distress. Although a long administration may lead to a long available anesthesia, unpleasant after-effects are liable to result. As with other anesthetics it is difficult to produce a satisfactory analgesia. In the few cases in which methyl oxide was used there were no indications whatever of danger.

Ethyl Chloride.—This is a useful anesthetic for certain cases. It is a fairly good substitute for nitrous oxide when this gas cannot be obtained. It is, however, somewhat uncertain in its action, sometimes answering every possible requirement, and fully satisfying the patient and his medical attendants; at other times almost failing to produce anesthesia. Its chief drawback lies in the frequency with which it produces unpleasant after-effects —headache, nausea, vomiting, and an indescribable feeling of depression. There is something almost characteristic in the distress which is liable to follow a full dose of ethyl chloride. There is less phonation under ethyl chloride than under pure nitrous oxide. Micturition seems a trifle more common under ethyl chloride. In addition to the after-effects mentioned a feeling of heat is not uncommon. As a routine anesthetic for short dental operations ethyl chloride is distinctly inferior to nitrous oxide and oxygen, although it produces a longer anesthesia. At the same time its portability and simplicity of administration constitute important advantages, especially in crowded outpatient departments and in country practice. In small children who are about to undergo some brief dental or throat operation, and in those adults who are bad subjects for nitrous oxide and oxygen, ethyl chloride will generally answer well. The continuous administration, without rebreathing, of percentage mixtures of ethyl chloride and air does not produce the best type of anesthesia. The best results are obtainable by means of the apparatus in use by the author, which allows of a gradual addition of ethyl chloride vapor to a known volume of air breathed backward and forward.

Mixtures of Nitrous Oxide and Ethyl Chloride.—By adding ethyl chloride to nitrous oxide a very deep form of anesthesia is induced with extraordinary rapidity, the method having the advantage of destroying consciousness more pleasantly than with ethyl chloride alone.

The so-called somnoform does not produce such good results as pure ethyl chloride, and is distinctly more dangerous. The effects produced by the two agents are, however, very similar.

FOREIGN BODIES IN THE EYES OF CHILDREN.

In the *British Journal of Diseases of Children* for November, 1904, STEPHENSON gives the following advice on this subject. He says that nine times out of ten the foreign body lodges on the inner surface of the upper lid, in a small groove (the subtarsal sinus) which runs parallel with the free border of the eyelid. Pain and discomfort are then considerable, owing to the cornea being continually fretted by the movements of the upper eyelid. Removal is quite a simple affair. It is merely necessary to evert the eyelid, and to lift off the substance with the

point of the small instrument sold for the purpose, and known as the "corneal spud." A piece of damp cotton-wool, twisted to a point, may also be employed for the purpose, in the absence of a more formal instrument. A very remarkable case was reported by William Mackenzie in his "Practical Treatise on the Diseases of the Eye" (fourth edition, 1854, p. 231). A child was brought suffering from severe inflammation of one eye, accompanied by a purulent secretion. From under the edge of the upper lid there projected a black, roundish body, which at first view even so acute an observer as Mackenzie thought might be a protrusion of the part of the iris through an ulcer of the cornea. His surprise was great when, on cautiously raising the upper eyelid, he found this was a case not of figurative but of real myocephalon. A common house-fly had been firmly lodged for eight days between the eyeball and the upper eyelids, its head projecting in such a way as to produce the appearance described.

Foreign bodies, as already said, may lodge in the sulcus that lies above the upper eyelid, the superior cul-de-sac, and in that position they give rise to little discomfort and may readily be overlooked. In the latter event the most anomalous appearance may be met with, particularly when the substance has been present for several weeks or months. A child, aged five years, presented a red and fleshy mass, as big as a peanut, growing out of the eye, and springing from the outer end of the upper conjunctival sac. Under an anesthetic the author snipped away the growth, and found at its point of origin from the conjunctiva a bit of straw nearly half an inch in length. He has met with several similar cases, without exception in young children. Dr. Deschamps, of Grenoble, has recently pointed out that in practically every case of so-called polypus of the conjunctiva that has fallen under his notice a small embedded foreign body has been the cause of the mischief. While it is true that in most cases these polypi originate from the superior cul-de-sac, yet he recently met a case where such a growth was situated in the ocular conjunctiva, 6 millimeters or so from the edge of the cornea. The appearance presented was that of a fleshy mass, the diameter of which measured 4 millimeters. It was removed, and a little piece of bristle from a bass broom found to lie at its root.

A foreign body, usually an eyelash, may lodge in the upper or lower punctum lacrymale, a position where it may lead to considerable irritation of the eye. The author has twice removed cilia from the lower punctum. At the Ophthalmic School it was not an uncommon event to remove short hairs from the puncta of boys a day or two after the barber had visited the institution. Certainly, in the author's experience, foreign bodies in the puncta are not so rare as current statements might lead one to think.

A slight injury of the cornea, such as is inflicted by a foreign body, is in elderly persons with unsound tear-passages the common cause of one of the most destructive forms of corneal ulceration, the so-called ulcus serpens or hypopyon-keratitis. We distinguish between foreign substances embedded superficially and deeply in the cornea. The former, much the more common, should be removed as soon as they are found, the eye having first been rendered insensitive by a few drops of cocaine, 2 per cent, and adrenalin hydrochloride 1:1000. In very young children a general anesthetic, however, will almost certainly be required. The substance is taken away with the corneal spud or by means of the twisted wool mentioned before.

It is with deeply embedded bodies, however, that mistakes in diagnosis and treatment are likely to arise in children. A rule might be formulated, namely, that whenever you come across in a child a lesion of the cornea that does not resemble any ordinary speck, infiltration, or ulcer, suspect the existence of a foreign body, and do not allow the patient to leave without satisfying yourself as to the truth or falsity of that view. A few weeks ago a child of two and three-quarters years was brought to the author with the statement that a speck had been noticed on one eye for several days. Upon examination he found a grayish, semilunar figure at the center of the cornea. It resembled no lesion that he was familiar with. Under ethyl chloride he removed a paring from a child's nail, which was rather deeply embedded in the substance of the cornea. On the 18th of February

last a small boy, aged four years, was brought to him at the Northeastern Hospital for Children on account of a speck, which had been noticed for about a week, on the right eye. The eye was red, and showed a degree of photophobia. In the lower inner segment of the cornea lay a yellowish humped mass, presenting a curiously dry appearance. It was surrounded by a distinct groove in the tissue of the cornea. The mass extended from the limbus 4 millimeters into the tissue of the cornea. Under ethyl chloride it was readily detached with the aid of a cataract needle, when it proved to be a seed-husk. The writer has had somewhat similar experiences with the operculum of the periwinkle, elytra of certain insects, and other singular foreign bodies.

CONCERNING ACETANILID.

On this practical clinical subject CLARK writes an article in the *Boston Medical and Surgical Journal* of November 17, 1904. He says that as an internal remedy acetanilid is fourfold in its action, viz.: anodyne, antipyretic, sudorific, and perhaps slightly soporific.

Though acetanilid is capable of assuaging pain, it will not remove all pain—that is, every kind of pain—no matter what the cause; it will never take the place of the other well-established anodynes. Nor will it cure every sort of headache, notwithstanding the fact of its being the active ingredient of the much-vaunted "headache powders." For headaches of the persistent type, under the name of sick, nervous, "bilious," periodic, or megrim, acetanilid, when combined with soda bicarbonate and caffeine (acetanilid 3 to 5 grains, citrated caffeine 1 grain, soda bicarbonate 5 to 10 grains) secures many excellent results. But it must be remembered that caffeine will oftentimes accomplish the same results when given alone; so does guarana (the old *Paullinia sorbilis*), with which under the latter name the author has succeeded in removing wretched headache for a period of thirty or forty years. This was at the time when paullinia was first imported into this country, under that appellation, from France, and in the form of powders, of 12½ grains each, and twelve powders in a box. Two or three powders given at intervals of half an hour would generally relieve the pain. Bromide of potassium or bromide of sodium has accomplished like benefit; so too much credit ought not to be given to acetanilid for cures equally attainable by other remedies. What will answer well in one case may not in another; even a change of diet may secure the end desired.

In spasm of the stomach, known as gastralgia, and in acute attacks of indigestion, a combination of 3 grains of acetanilid and 5 grains of bicarbonate of soda has both succeeded and also failed.

Acetanilid also reduces the temperature, and it excites the perspiration. As these two effects of this medicament are concomitant, they will be discussed togetherd. Except, in a few instances, in its latter capacity it is the equal here of the time-honored "Dover's powder," once regarded as the sheet-anchor of the Pharmacopœia. In incipient coryzas, and in certain bronchial affections and in pharyngitis (all labeled "colds" by the laity), the effects of acetanilid are sometimes wonderful. In the hot stage, attended by a difficulty of breathing through the nose or by a feeling of tightness in the chest, by shivering, soreness of the flesh, and by a general malaise (all of which symptoms may be the precursors of some serious affection or merely of a simple cold in the head), acetanilid, given in small and repeated doses, relieves always and may ward off the threatened attack. The dose in this case should be from 3 to 5 grains, repeated every two or three hours. The moment perspiration is established the danger line is passed.

Another method of "breaking up a cold," as it is termed, is to administer from 5 to 6 grains of acetanilid at bedtime, followed by a hot foot-bath and a draught of hot lemonade or of hot whiskey and water and the like. In this respect this remedy is superior to the much-lauded quinine, and many times as beneficial as Dover's powder, without its disagreeable taste and after-effects. As a reactionary agent acetanilid possesses great powers, providing its depressing tendencies are counteracted.

In influenza its value is considerable in establishing a reaction through its sudorific powers. For this purpose it may be administered in doses of from 5 to 10 grains, according to age and other considerations, every two or three hours,

until full perspiration is established. This dosage should not be carried, however, beyond the fourth time. There is usually obtained a profuse perspiration after the third or fourth dose. Should no perspiration occur after the fourth dose, it is a safer practice to discontinue the remedy for a while, and when resumed, to be repeated at longer intervals. But great care should be exercised, and it should not be persisted in for too long a time in large doses. Sometimes it fails, and some other medicinal agent has to be employed.

As to its soothing or soporific properties, acetanilid is of some service. In the first stage of a "cold" its employment produces a well-pronounced quietness; a feeling of ease and comfort at once supervenes; a reaction soon sets in; and many of the bad symptoms lessen or totally disappear. Some of these beneficial effects may be due, however, to its other virtues. Of these effects the author speaks from actual experience, though in a far less marked degree than what are obtained from either opium or its alkaloid, morphine. Perhaps this is one of the effects of the remedy which makes it so great a favorite among persons who are troubled with "bad nerves." But physicians are not always responsible for the abuse of a drug. Acetanilid has not been misused more than many other medicaments. Unfortunate results will follow the administration of a remedy, even on the exercise of a due amount of skill. The author has employed it in a great number of cases, both internally and externally, and thus far without any unfavorable result. Of course, the necessary precautions have always been taken. The employment of acetanilid as an internal remedy will, in the course of time, find its limitations.

As an outward application acetanilid acts both aseptically and antiseptically. It may also subserve the purpose of an anodyne, but it does not possess that property to the degree of resorcin. In these instances it is clearly employed as a dry dressing. It is indicated in all discharging surfaces, open wounds, ulcers, granulations, and especially in operations in minor surgery, and may be advantageously used in every case requiring a dry dressing.

Suppurating and ulcerative surfaces are first washed with peroxide of hydrogen, then the part is sprinkled with acetanilid (pulverized) and covered with a strip of absorbent cotton or of ordinary lint that has been previously smeared with vaselin, then the whole bandaged if necessary. If the surface which is to be treated is large, precaution must be taken not to make a too lavish use of the acetanilid. It may be said here that it is the equal of iodoform as an antiseptic, without having its disagreeable qualities. Sometimes it has been advisable to give the outside of the lint or absorbent cotton a thin dusting of powdered acetanilid in addition to the former application.

In the treatment of open wounds and of the minor operations, the procedure is somewhat as follows: The injured part is first cleansed and carbolized, the loose ends adjusted, sutured or strapped, or both, then carbolized, and acetanilid dusted over the whole. A bandage may be now loosely applied. After removing whatever sutures there may be, the wound is to be treated as before. After the second dressing little or no subsequent treatment is usually necessary, unless for the readjustment of parts where the tissues have been much torn. Extensive lacerations by machinery of thumbs and fingers, even when the bones are split and necessarily require whole or partial removal, under this method have admirably healed, and with hardly an exception without the formation of any pus.

In the treatment of ulcers of the leg, generally of the varicose variety, the use of acetanilid has, in the hands of the author, surpassed every other application adopted in his former hospital practice. At that time the common procedure consisted in poultices, cauterizing, the application of the perfunctory iodoform, ointments of various kinds, astringent washes, and mainly strapping. The method was long and tedious and somewhat expensive in private practice.

SHOULD PULMONARY TUBERCULOSIS BE TREATED AT HOME?

This question is answered by CRAIG in the *New York Medical Journal* of December 3, 1904. He first asserts that outdoor life is not all-sufficient in the treatment of these cases, as demonstrated by late statistics, which show that thirty per cent of the adult population of the Philippines, where outdoor life is the common

mode of existence, die of some form of tuberculosis.

The four factors which most directly contribute to favorable climatic conditions are sunshine, relative humidity, temperature, and altitude.

The value of a maximum amount of sunshine cannot be overestimated, as the humidity and temperature depend upon it in a large measure. Its influence upon the mental condition of the average patient is very pronounced. When the day is cloudy and the humidity great, he is depressed and can hardly be induced to get out of the house. When the sun is shining brightly his melancholia disappears, and he wishes to put in as much time as possible out-of-doors. The entire area comprised of Arizona, New Mexico, western Texas, Southern California, and Nevada has an unusual amount of sunshine as compared with eastern States.

As an illustration in point, the average daily sunshine for the month of February in Phœnix, El Paso, and Redlands is over eight hours. Numerous points of observation in Arizona are reported by the United States Weather Bureau as having less than fifteen entirely cloudy days during the year 1903.

Humidity.—A low relative humidity, which depends to such a great extent upon the sunshine, is probably the most important of all climatic conditions in its relation to the cure of pulmonary tuberculosis. In northern Asia, the Rocky Mountains, and the great plateaus of Central Africa, where there is a minimum amount of moisture in the atmosphere, the disease is comparatively rare, and clinical evidence has taught us that tuberculous cases improve much more rapidly and that the percentage of recoveries is much greater where the air is dry.

Temperature.—Temperature in itself is not so important, except as to its influence upon the total amount of sunshine and the relative humidity. Its greatest influence is perhaps in the amount of time a patient is allowed to spend out-of-doors. On the whole, a high average annual temperature is perhaps the best for the majority of cases.

The temperature of this region, particularly Arizona, is higher by an average of 20° to 25° in the summer, and 30° to 40° in winter, than that of the eastern and north central States, yet the humidity is so low in summer that the sensible temperature is much less. As a matter of fact, the sensibility of the human body to heat is really less in Arizona than in New York. A temperature of 110° in Arizona is also much less unpleasant than a temperature of 90° in Chicago. The annual mean temperature for the western division of Arizona for 1903 was something like 74°, which permitted the patient to live in a house tent the entire year.

Altitude.—Altitude does not seem to have any very pronounced influence on tuberculosis. It is true that many cases improve markedly after removing from the East to a high altitude in the mountains. But it is questionable whether the benefit derived is not due primarily to other causes, notably dry air and improved hygienic surroundings.

There are, unquestionably, important blood changes at a higher altitude, and the assimilative powers are temporarily stimulated, but it is open to question whether or not the benefit is not more than balanced by the nervous stimulation and tachycardia produced. In an active state of the disease a high altitude is certainly contraindicated on account of the extra amount of work thrown upon an already weakened heart.

Tuberculosis is practically a universal disease, and it is not at all unlikely that all mankind are more or less susceptible to it, as they are to measles and scarlet fever. The very fact of the universal existence of the disease, as proved by post-mortem work, also proves that the statistics ordinarily given out do not adequately represent the percentage of recoveries, as by far the larger number of cases that recover are never recognized during the course of the disease and are only revealed at the necropsy. As a matter of fact, from sixty to seventy-five per cent of all cases of tuberculosis recover, as proved by necropsies, when death has been the result of other causes. Clinical reports from the modern open-air institutions largely confirm these statistics, and Walther, Detweiler, and Trudeau report from twenty to thirty-five per cent of all cases admitted to their institutions as being cured, as evidenced by absence of bacilli, a return to good general health, and the resumption of the ordinary vocations of life.

Every case of pulmonary tuberculosis embraces two conditions: one destructive, with caseation, sepsis, and its accompanying disastrous effects upon the general nutrition; and the other a process of cicatrization, fibrosis, and repair—the result in any given case being determined by the individual resisting power of the body against the ravages of the disease, or, in other words, the capability of the body to limit the growth and destructive action of the bacilli. To increase this resisting power must be the true solution of the cure of tuberculosis, whether it be by the open-air treatment or by the use of drugs.

The very multiplicity of remedies is *prima facie* evidence that specific treatment of the disease is, to say the least, extremely unsatisfactory. It can at best be used as but an auxiliary to some more far-reaching and fundamentally correct principle. As yet the results obtained from the use of the serums have been practically *nil*. The value of tuberculin, even as a method of diagnosis, is questionable. Any drug that has a tendency to disturb the digestive apparatus is positively contraindicated, and the personal observations of those men who come in contact with large numbers of tuberculous cases bear out the author in the statement that more damage has been done by the use of creosote, guaiacol, ichthyol, etc., than can be counterbalanced by benefits derived.

A successful treatment of pulmonary tuberculosis to-day depends above all upon an early diagnosis and the intelligent application of three vital principles, viz., open air day and night in a suitable climate, good food, and as nearly as possible absolute rest, physical and mental. With these conditions fulfilled most cases of tuberculosis should recover, or at least become so arrested as to be harmless.

Delayed diagnosis so often means to the patient loss of all chance of restoration that we cannot be too careful in all suspicious cases. After gross pathological changes have taken place in the respiratory tract, and bacilli are present in the sputum, the diagnosis is easy, but there is no good reason why pulmonary tuberculosis should not be diagnosticated in the prebacillary stage before even a cough has developed; that this diagnosis is being made much earlier than in past years is evidenced by the great increase in the number of incipient cases that are now sent to our health resorts and sanatoria. The malaise, loss of appetite, malnutrition, a continued afternoon acceleration of the heart's action, night sweats, and evening temperature are as characteristic and classical of tuberculosis as is the presence of bacilli in the sputum.

When such a case is recognized and put under the proper hygienic surroundings, in a climate admitting of an outdoor existence, the patient should recover, but if the disease is not diagnosticated until a secondary infection has taken place, and he has rigors, high temperature, profuse expectoration, and the other symptoms so common to advanced cases, no change of climate, or change in his method of living, can do more than prolong life. It is the belief of the author that in an early diagnosis lies our only real hope in the successful treatment of this disease.

HYPNOTIC REMEDIES IN MENTAL DISEASE.

DIEFFENDORF writes in the *Journal of the American Medical Association* of November 19, 1904, on this theme. He says that if one must resort to the use of hypnotic drugs, chloral in combination with potassium and sodium bromide, 3 1/3 grains each at a dose, repeated until sleep is secured, is by far the best, unless contraindicated by cardiac complications. The dose should not be repeated oftener than every hour up to 60 grains of chloral, and then not repeated for several hours. Where such complications as fatty heart, valvular insufficiency, atheroma, or myocarditis exist, paraldehyde, though less efficient than chloral, is the best substitute. The first dose should not be higher than 45 minims; it may be increased to 2 drachms, and is given in ice water or whiskey.

Next in efficiency to paraldehyde is chloralamide, which can be given with safety when cardiac and vascular symptoms exist. Its pleasant taste and prompt action, with freedom from depression of cardiac and respiratory centers, make it a valuable substitute for the two preceding drugs. It is best given in from 30- to 35-grain doses in a weak alcoholic solution. It must not be administered in alka-

line or hot media. If all of these hypnotics fail, one will usually succeed with a combination of a large dose of ammonium bromide with a moderate dose each of chloral and morphine. Prolonged, deep sleep is not to be sought for, as this comes only with the general improvement.

There are several forms of insanity in which the insomnia is accompanied by and in great part due to a great pressure of activity. This sort of psychomotor activity and its attendant insomnia is especially characteristic of manio-depressive insanity, but also occurs in dementia precox, particularly the katatonic form, and sometimes in dementia paralytica.

The hypnotic chosen here must subserve the function of a psychomotor sedative as well.

The only satisfactory remedy suitable for prolonged application is the prolonged warm bath—95° to 98° F. The patient remains in this for several hours until the desired effect is obtained, when he is returned to bed. The patient regularly alternates from the bed into the bath as needed, and can remain continuously in the bath without deleterious effects for many days.

Considerable difficulty may arise in keeping the patient in his first bath, and for this purpose a preliminary dose of hyoscine hydrobromate may be administered. But the patient once accustomed to the bath usually likes it.

Where the bath is inaccessible or for any reason inadvisable, and a hypnotic drug must be employed, the best is hyoscine hydrobromate. The chronic character of these psychoses makes it necessary that drugs be employed only to control insomnia and the pressure of activity at the height of the psychosis, or when most needed during exacerbations. Idiosyncrasies for hyoscine are by no means frequent, so that the first dose should be 1/250 to 1/200 of a grain, and it should be employed only with care in asthenic cases and where there is circulatory disturbance. The dose may be cautiously increased to 1/50 grain.

Scopolamine (which is really hyoscine hydrobromate—Ed.) appears to be more uniform in its action and to give equally good results in somewhat smaller dosage, and furthermore, is never followed by depressing effects. It is given in similar dosage as hyoscine. Where it seems necessary to repeat the dose of hyoscine or scopolamine more than twice daily, it is well to combine it with paraldehyde, which always gives very prompt and satisfactory results.

Cannabis indica is an old and standard remedy for this type of insomnia, but less reliable than hyoscine and scopolamine. It may be administered either alone, 1/3 grain of the extract, or in combination with the potassium bromide, 30 grains of the latter to 5 cubic centimeters of the tincture. The lack of uniformity in the preparations of this drug is a distinct drawback to its use.

Trional and veronal are two drugs that are often employed, but the results are not satisfactory, and their influence tends to wear off. Yet trional combined with paraldehyde sometimes promptly brings sleep and quiet where other drugs fail.

The type of insomnia which is accompanied by and in part due to distressing hallucinations and delusions is encountered most often in melancholia, in some cases of dementia precox, and occasionally in dementia paralytica.

The picture of profound despondency, attended by great mental anguish, lamentation, and agitated restlessness, with marked insomnia, is well known and demands alleviation. The best therapeutic agent at our disposal for this purpose is the deodorized tincture of opium given in the smallest dose that will produce the desired effect, and it may be increased from 20 to 25 minims two and three times daily. Morphine in doses of 1/32 grain repeated five times daily is highly recommended by some and gives better results than when given in 1/16-grain doses three times daily. If good results, it appears within two weeks, otherwise the drug must be gradually withdrawn. It is contraindicated where an asthenic condition of the patient exists and where there is gastric disturbance or albuminuria.

It can be asserted without reservation that opium or its derivatives are not indicated in any other form of insanity unless the condition is aggravated by pain; and in melancholia, unless it does good, it is distinctly harmful.

The rest treatment should be insisted on in all cases of melancholia, and with its application a moderate degree of insomnia

existing independently of prolonged agitation and mental suffering does not demand energetic treatment.

Should the insomnia become troublesome, then the simple hypnotic measures ought to be first employed, as hot liquid nourishment or warm sponge bath at the hour of retiring. If hypnotic drugs seem necessary, either trional, paraldehyde, chloralamide, or veronal usually suffices. The insomnia of the depressive phases of dementia precox and of manio-depressive insanity is best ameliorated by the use of the cold or warm pack. Where there is no success by these means, one may employ the combinations of chloral 3 1/3 grains with potassium and sodium bromide 3 1/3 grains each; paraldehyde alone, trional, veronal, or somnos. The insomnia of the depressive phase of dementia paralytica is most difficult to control, and often does not yield to any remedy. Chloral with the bromides given in larger doses, paraldehyde alone and in combination with trional, and veronal alone should be tried.

For the extreme insomnia of the exhaustion and infection psychoses, where there is great clouding of consciousness, delirious excitement, and a tendency to an asthenic physical condition, alcohol is most valuable, given in large doses in the form of whiskey and brandy. It is readily added to the liquid nourishment, as forced feeding by nasal or stomach tube is usually necessary in these cases. In employing alcohol in these psychoses, special attention must be paid to the tongue, skin, pulse, and respiration; if the skin and tongue become moist and the pulse and respiration slower, while the delirium subsides, one is justified in continuing the treatment, but absence of improvement demands its immediate cessation. The chief indication here is not to control the insomnia, but to fortify nutrition, guard the heart, and prevent self-injury. This observation may seem unnecessary to many, but the irrational abuse of sedative and hypnotic drugs in these acute psychoses is so often encountered, and occasionally leading to fatal results, that too much stress cannot be laid on it.

Prolonged warm baths are usually successful in controlling the insomnia. In conjunction with them hyoscine in doses of from 1/200 to 1/150 grain can be used with good results. Trional, combined with paraldehyde, is adapted to these cases, but no hypnotic drug should be long continued.

THE RELATIVE VALUE OF THE MEANS AND METHODS EMPLOYED IN ACCOUCHEMENT FORCE.

In the *American Journal of Obstetrics* for November, 1904, ZINKE reaches the following conclusions after having considered at some length the principal methods of accouchement forcé:

1. The graduated steel or vulcanite dilators and the ordinary branched or bladed dilators are mainly employed for the purpose of dilating the cervix or os preparatory to digital, manual, and bag dilatation.

2. The bag or hydrostatic dilators, of which the Champetier de Ribes balloon and its modifications are the most favored, should be employed only when time is not an important element in the case; when the cervix is thoroughly softened, partly or entirely effaced, and an easy introduction of the balloon possible. This form of hystereurysis is contraindicated in central placenta previa and in eclampsia, mild or severe; if, in these conditions, it is determined to empty the uterus, deep cervical incisions, vaginal or abdominal hysterotomy promise the best results for mother and child. To prevent continuation of the cervical incision, a suture may be placed in the upper angle of the wound.

3. The manual dilatation of Harris and the bimanual (digital) dilatation of Bonnaire and Edgar. A soft and partially obliterated cervix and dilatable os are absolute prerequisites for this variety of uterine dilatation. It is to be preferred to hydrostatic hystereurysis when time constitutes an important element. Under this method the life of the fetus is often lost, and unless great care is observed, sepsis, lacerations, hemorrhage, profound shock, and sometimes even death of the mother, may occur.

4. Deep cervical incisions and Dührssen's vaginal hysterotomy are destined to play a permanent and important rôle in the management of forced labors in the future. Many of the cases now subjected to manual or balloon dilatation will be treated by cervical incisions. It is the method in the presence of sepsis of the

vagina, because the operation is short in duration and can be performed under a continuous flow of an antiseptic solution. An intact cervix, whether hard, elongated, or not, is always an indication for cervical incision. Vaginal hysterotomy is indicated principally when the cervix is the site of malignancy or extensive cicatrization. If there is a palpable difference between passage and passenger, the Cæsarian section should be the choice of the operator.

5. The indications for the conservative Cæsarian section have been so well defined by the author in previous papers that he thinks it needless to repeat them now. Cervical incisions and Dührssen's operation will, however, take its place in many instances, notably in cases of marked prematurity.

6. The Bossi and similar metal dilators, if they are not entirely needless, are certainly very dangerous instruments. From what has been said, it is safe to predict that rapid and complete dilatation will never become a popular method; that sooner or later it will receive universal condemnation, and thus reach its final and well-deserved destination, "the lumber room of obstetric instruments."

SERUM THERAPY IN SCARLET FEVER.

HAMILTON in the *American Journal of Obstetrics* for November, 1904, states that his experience with the serum in the treatment of scarlet fever has been even more gratifying than in puerperal sepsis. In not a single case that he attended, where the serum was given a fair chance, did death result. In an epidemic of about fifty cases, with a large number of malignant ones, the mortality was *nil* where the serum was used from the beginning. The only cases of death, in which the serum was used, were seen late in the disease, and they were mostly complicated. The serum was used only in the malignant form, and in most cases in families where one or more deaths had resulted before this method of treatment was employed. In the milder cases, where the throat symptoms were not so prominent, and in which the temperature was not high, the serum was not used. When we consider the high rate of mortality in the malignant form of this disease, any measure which produces results so definite and beneficial must be looked upon as a great advancement in medical science.

The author is fully aware that his experience with this serum is much more satisfactory than that of some of his colleagues. However, in the cases where he has used it the results have been so striking that he is inclined to continue to administer it when indicated, with the firm belief that benefit will follow. It is noticeable from the record of his cases that the patients thus treated suffered no unpleasant complications or sequelæ, while some of the milder cases were followed by otitis, nephritis, and rheumatism.

PROBLEMS RELATING TO SIMPLE ULCER OF THE STOMACH.

BEVERLEY ROBINSON states in the *Medical Record* of December 31, 1904, that there is a great difference between the medicinal treatment of acute and chronic ulcer of the stomach. This was pointed out specially by Fenwick, who emphasized the truth of it, and showed how closely it was based upon anatomical and pathological conditions essentially distinctive. In very many cases acute ulcer will be greatly improved and perhaps cured by a relatively short treatment with diet, rest, and the use of a few medicinal agents. No such happy outcome should be looked for in chronic ulcer of the stomach. Here months, and indeed years, may elapse, as we know, before the patients become completely rehabilitated. In the vast majority of such cases, if food be given by the mouth, it should be in the form of milk, just as in the days of Cruveilhier, who first insisted upon its crowning efficacy. As a rule, it is wise to give it peptonized and warmed, rather than raw or cold. In case it is thus allowed, on account of some personal peculiarity, a liberal addition of lime water may be added. Kumiss is not advisable by reason of its acidity. Matzoon or zoolack is less objectionable. Milk, after being heated almost to the boiling point, may be diluted and cooled with the addition of rice or barley water. It may also be made more digestible and soothing with gelatin or isinglass. The former is indicated whenever there is any evidence of bleeding from the ulcer. A

small quantity of arrowroot with milk, a little cream and gelatin, as in Meig's well known formula, are not undesirable at times. It seems objectionable to permit milk in any form, according to Murdock, whenever the gastric contents show little or no hydrochloric acid present. In these cases we should allow albuminized water, beef juice, or light broths, diluted or not with barley water, rice water, or oatmeal gruel.

The writer is opposed in the beginning of treatment to anything further in the way of food. Even the addition of light soups with cereals or vegetables is objectionable, because of possible local irritations or fermentations produced. Indeed, he has little doubt that if all food be interdicted by the mouth for many days, and the patient be nourished solely with properly formulated enemata, he will progress more favorably than if we attempt to give him at first the mildest nourishment in liquid form by the stomach. We know the old-time formulæ of some at least of these enemas with egg, milk, beef extract, whiskey, etc. All of them are objectionable after a time, and produce rectal intolerance. Besides, once every twenty-four hours the rectum must be flushed thoroughly with warm water, to get rid of any remaining and infecting detritus. A bad taste is often complained of by these patients after several days of treatment, and this may cause nausea and even vomiting. Most of the objectionable features of enemata may be gotten rid of simply by giving them warm water, heated to about the temperature of 100° F., and repeated four or more times in twenty-four hours. The amount given each time should be introduced slowly and with very moderate pressure. These enemata may be continued occasionally two weeks or more, without producing any untoward consequence. There is no bad taste in the mouth, the strength of the patient is kept up fairly well, and there is little or no complaint of suffering from excessive thirst.

There is one food which the author has omitted, and which, it is claimed, is especially valuable when hydrochloric acid is deficient in the stomachal secretions, and that is buttermilk, freshly made and freely taken. In several cases its use really appears to have been followed by a permanent cure. It is possible, in view of the late discovery of a great French scientist, Metchnikoff, that buttermilk in ulcer of the stomach is a true elixir of life.

Of the different medicinal agents, none has received as many encomiums as the salts of bismuth. Of these, the most widely used is the subnitrate. To be of any service it must be given appropriately before food, or on the fasting stomach in the early morning. In any case small, insufficient doses are of very little value. Probably the best way to give bismuth is to suspend it in water, to which is added a little milk-sugar. Cane-sugar should not be used on account of its proneness to acid fermentation. A fair proportion of prepared chalk and lime water may be added, and thus we have an admirable and efficient formula, which is likewise not unpalatable—a decided advantage. The author has rarely, if ever, been disposed to prescribe the silver salts in suspected ulcer of the stomach. The nitrate of silver, we are told by some writers, is useful, and possibly covers over certain sensitive areas, by reason of its decomposition, with the coating of an albuminate film. And in certain hyperesthetic conditions in which there is intolerance for all kinds of food —even in liquid form and most bland—it may be of service. In case the bowels become at all constipated, some natural salt like sulphate of soda may be given, or the liquid form of magnesia, which is preferable because of its well known alkalinity, as well as its aperient qualities.

MEDICAL TREATMENT OF GASTRIC ULCER.

LAMBERT writes on this topic in the *American Journal of the Medical Sciences* for December, 1904. In his opinion the local subjective symptoms of nausea, vomiting, epigastric distress, and pain are best treated by the treatment of the ulcer itself. They usually disappear during the starvation period which should inaugurate every cure. When they return during the course of the treatment they are to be considered as danger-signals that the treatment has progressed too rapidly, and that that individual case must be set back to an earlier period of the cure. Nevertheless, these symptoms may require other remedies for their relief than bismuth or silver.

Antiemetics will often prove of benefit, and anodynes, as codeine, cocaine, and anesthesin, will often control attacks of gastralgia, while morphine should be avoided because it tends to increase acidity. The regular habit of these patients, especially those who have a condition of hyperacidity, is constipation. The most efficient drugs to combat this condition are the alkaline salines, prominent among which Carlsbad water and its salts must be mentioned. Such an aperient given each morning before breakfast is usually sufficient. If there be any serious accumulation in the colon, it may be relieved by the use of oil or water enemata. The condition of anemia will require general treatment, and iron will be needed. One can use the pyrophosphate with considerable confidence of its having no irritating effect. It may be used during the rest-cure treatment as soon as the patient has begun to add other articles of food to his milk diet.

The most constant accompanying gastric complication is a hyperacidity. This may be overcome in a purely symptomatic way by neutralizing the acid, or the more permanent method of modifying its formation may be adopted. The secretion of the acid may be checked and in large measure controlled by the use of atropine or belladonna. The same result may be secured by the use of bismuth, of oil, and of fatty foods generally, or by irrigations with silver nitrate. The adherents of the oil cure of Cohnheim claim that this simple treatment will overcome most cases of pyloric spasm, even when associated with tetany. Such a procedure demands a trial for no other reason than for its simplicity alone. Two other complications are purely surgical in their treatment: the late complication of gastric ulcer, a cicatricial pyloric stenosis, with its consequent motor insufficiency, and a perforation of the stomach, with peritonitis. Surgery can cure the first, and it is a modern triumph that some degree of success is offered in the second, in which form of perforative peritonitis von Ziemssen thirty years ago could only advise as complete a euthanasia as possible.

There remains to be considered the treatment of hemorrhage from the site of an ulcer. This complication may present itself in different degrees of severity. The mildest cases of bleeding, in which the amount of blood lost is insignificant, may be considered as mere incidents in the course of a disease which is running along smoothly. After any loss of blood which amounts to more than the merest shreds or stains in mucus, discoverable perhaps only by careful chemical analysis of the stools, it is wise to take precautions to avoid irritating food for a day or so. If the blood can be measured by the ounce, a period of fasting should be insisted on as an initial therapeutic measure. This complication is often the first symptom to make these patients realize the severity of their disease, and the therapeutic measures of rest, starvation by stomach, and rectal feeding are frequently begun shortly after a more or less severe attack of hematemesis. If the hemorrhage is not repeated, even if it amounted to a pint or more, the regular routine treatment may proceed without a setback. The hemorrhage may become continuous, or it may be repeated at short intervals in spite of treatment, and may demand surgical interference within a few hours. The bleeding may occur at longer intervals, and possibly be associated with each attempt to begin gastric feeding. Such cases present the most difficult question for decision, whether to call on the surgeon for help or to continue medical treatment. A single large hemorrhage, causing death in a few minutes, is also a possibility, and such a complication is, of course, beyond either medical or surgical help.

The medical treatment of active gastric hemorrhage is simple, but often inefficient, and is directed to giving the blood an opportunity to coagulate, and thus to plug the bleeding point. Absolute rest, local application of ice to epigastrium, and the giving of pieces of ice to be swallowed whole, are of some benefit. The stomach should be allowed to contract, and if it be filled with clots a stomach-tube should be inserted and the organ emptied. There is only one drug which is of service: the hypodermic use of morphine controls the restlessness and air hunger, keeps the patient quiet, and supports the heart action. The use of alcoholic stimulants is contraindicated, and cardiac whips are decidedly injurious. The loss of fluid and the consequent thirst may be overcome by means of saline enemata. A pint of normal saline solution may be injected into the rectum at

hourly intervals, with a fair prospect of its complete absorption, and such enemata may be repeated with advantage for ten or more consecutive hours. A due appreciation of the probabilities of the success of surgery in these cases of hemorrhage, and the utter helplessness of medicine, and of surgery also, unless the case is undertaken early, will change the medical habits and improve the surgical results of the past.

THE MANAGEMENT OF SUMMER DIARRHEA.

The immediate indications for treatment in a case of summer diarrhea are of a triple nature, and every mother, nurse, and physician should know them by heart. They are to stop milk and substitute a bland diet, to thoroughly clean out the digestive tract, and then, and not till then, employ means to check excessive peristalsis and secretion of the intestines.

Removal of Cause.—Castor oil and calomel are both efficient in sweeping out the bowel contents, and each has its special indications and advantages. Where improper and undigested food is known to be the cause or there be blood or much mucus in the movements, castor oil, one or two drachms, acts promptly and relieves irritation. Where there is vomiting, intestinal decomposition, or considerable temperature from absorption, and especially when the trouble has existed some time, calomel may be preferable in doses of 1/10 grain every half-hour up to 1 grain. It is a gastric sedative and intestinal disinfectant, and it favors more normal hepatic action.

Lavage.—Where vomiting plays an important part gastric lavage with lukewarm water or a solution of bicarbonate of soda (1 drachm to 2 pints) may be most useful in cleansing the stomach.

Intestinal Irrigation.—The author has found intestinal irrigation to be necessary less frequently than formerly, doubtless owing to rigid adherence to the rule of stopping milk at once, but it is of the utmost importance where the temperature is ominously high, the toxic symptoms pronounced, and in neglected cases. In conjunction with the administration of laxatives by the mouth, which should never be omitted, nothing compares with it when properly administered in promptness and efficiency in cleansing the colon and reducing high temperature. Plain water should not be used, but a normal salt solution (1 drachm to 1 pint), employing a fountain syringe and a moderately firm catheter, No. 14E, or a small rectal tube, introduced in the lithotomy position with hips elevated while the water is flowing, some nine or ten inches into the sigmoid flexure or beyond.

The irrigation should be thorough, at least two quarts being used, as it escapes at intervals beside the tube, and if the body temperature be high it may be cool, but if low and there be much weakness, it should be warm. With much congestion, evidenced by blood in the stools, tannic acid (1 teaspoonful to the quart) may be added with advantage. Irrigation gently and skilfully performed with an elevation of the reservoir of not over three feet does not increase prostration, but like other judicious hydrotherapeutic measures stimulates and soothes and is often followed by restful sleep. Retained fluid is, in part, absorbed greedily by the depleted tissues of the body, and thirst is thus relieved.

Intestinal Sedatives and Disinfectants.—Medication of the disturbed digestive tract next demands our attention, with the fourfold purpose of relieving irritation, restoring normal secretion, favoring disinfection, and checking peristalsis, if excessive. The drug which of all others has stood the test of time and experience in meeting the first three at least of these indications, and often the fourth, is the subnitrate of bismuth, which is sedative, mildly astringent, and disinfectant. It has the further advantage of being nonpoisonous in the relatively large doses which are necessary. It is often given too timidly, and so ineffectually. Ten grains should be given every hour at first to children under one year of age until improvement occurs with the characteristic discoloration of the stools; then every two hours may be sufficient. It has been a matter of observation that where this discoloration, which is probably caused by the action on the bismuth of hydrogen sulphide in the bowel, does not appear in the stools, it is ineffective.

This may be remedied when required, as suggested by Kerley, by giving lac sulphur in grain doses. The frequency of the movements often subsides under

bismuth treatment alone, but where the number of the stools exceeds six or eight in twenty-four hours, and particularly if they be fluid and large, special medication may be necessary. Opium fulfils this indication, and should be given separately, so that its dosage and frequency may be regulated independently of other remedies. Dover's powders, ¼ to ½ grain, every two to four hours stand first, and paregoric, minims 5 to 15, second for this purpose. High temperature and foul stools, indicating retained toxic products, forbid locking up the bowels.—SOUTHWORTH in the *Journal of the American Medical Association*, Dec. 24, 1904.

SOME UNSETTLED AND IMPORTANT PROBLEMS IN THE TREATMENT OF ACUTE LOBAR PNEUMONIA.

The *American Journal of the Medical Sciences* for December, 1904, contains an article on this subject by BEVERLEY ROBINSON. He does not believe in the cold bath, cold pack, or even cold applications locally in the treatment of pneumonia. Occasionally he permits cold sponging if the fever be very high, but as a rule he much prefers the use of tepid or warm water for bathing purposes, to which a moderate proportion of alcohol is added. It seems that the efforts to diminish fever *per se* in the treatment of pneumonia are scarcely ever a primary and essential object, because it is not believed, as a rule, that the muscular changes produced by increased temperature in its relatively short duration, although very high at times, can be very pronounced, and it is believed that the nervous shock caused by the toxin is better allayed with slight or moderate heat than with cold.

For a somewhat analogous reason the author is opposed to large doses of quinine to abate pneumonia or to act as a pronounced antipyretic during the course of pneumonia. On the other hand, he thoroughly believes in moderate doses of quinine when well tolerated by the stomach, as a tonic, as a slight antipyretic, and as a blood disinfectant, throughout the course of pneumonia. In large doses, while quinine does diminish temperature, it decreases heart power and general strength, and therefore is prejudicial to the patient's well-being. Be it added, however, that quinine as an antipyretic for those who wish to follow out this indication formally is far less dangerous in use than antifebrin, antipyrin, or even phenacetine.

The author is of the opinion that there is weighty evidence to prove that the solution of ammonia is a preparation, used moderately and continuously in pneumonia, of considerable value. Its value is specially shown not as a stimulant—because in that particular he believes alcohol, as whiskey or brandy, to be more desirable—but to keep the blood alkaline and fluid. In this disease, especially in the grave forms and where there is extensive pulmonary consolidation, this is a very important matter. The author has seen many patients in whom, before death and at the autopsy, he has been convinced that heart clot avoided would possibly or probably have meant a life saved. To no one as much as to Benjamin Ward Richardson is the honor due of great insistence upon this important fact, too much ignored to-day in medical writings and medical practice. Large doses of digitalis at any period of the disease are, in the author's opinon, prejudicial to the patient and can never do good. In the middle forms of the disease they are not even indicated from any point of view; in the graver forms and in middle adult life, particularly of most city men, arterial changes contraindicate its use, not to speak of possible granular degeneration of cardiac muscular fiber. Frequently the author has seen the pulse become rapidly very tense and more or less irregular under its use, and the heart action tumultuous, irregular, and forced, as it were, uselessly and vainly. Minute continuous doses of digitalis, given before there are any symptoms of heart failure, may prove useful in warding it off, and when heart failure shows itself it should not be discontinued, but protected as to its action upon peripheral arteries with a moderate amount of nitroglycerin, 1/200 or 1/100 grain, given every two or three hours.

We must bear in mind that digitalis is not the drug from which we should expect good effects very rapidly in the treatment of pneumonia. Its action, to be useful, must have time as an element, and if given in small doses its cumulative effects, by reason of slow elimination, do not become prejudicial. Apart from other

considerations, digitalis in anything but small doses will often cause stomachal intolerance. So soon as there is evidence of pronounced cardiac weakness digitalis, or much better, good digitalin and strychnine, should be given hypodermically, and not by the mouth. Medication by the mouth in grave conditions in pneumonia is uncertain and unreliable except for alcohol and possibly nitroglycerin, which do not derange the stomach, and hypodermically may cause considerable local irritation.

In regard to strychnine, while the author values it highly in the treatment of pneumonia, he is satisfied we have to-day often pushed its use to an extreme degree, and in more than one instance in which a 1/30 or even 1/20 grain had been used hypodermically every two or three hours he has cried a halt, because he was satisfied insomnia and delirium were being aggravated, and the heart action not in reality stimulated by this overdose. In more than one instance in the treatment of pneumonia, and where other heart stimulants have been of little or no avail, he is sure he has been of use and helped save life with the employment of the best available preparation of coca. Given by the mouth or hypodermically, it has often been of service when he had almost given up hope. The reason, he believes, that this agent does not more frequently respond to our wishes is because the preparation employed is relatively inert. Many coca leaves, not to say the far greater majority, are dry and of poor quality when first gathered. Further, the wrong variety of leaf from which to obtain the tonic alkaloid of the plant is usually employed. Hence much of the coca used, as wine or extract, contains a large percentage of cocaine, which the author believes has little or no tonic properties, and does not contain the other derivatives most valuable in cardiac exhaustion of pneumonia. Here is not the time or place to speak further on this topic.

It is wisdom to give black coffee frequently in advanced cases of pneumonia with evidence of heart weakness or cardiac degeneration, whenever our coca is unreliable.

There can be little doubt that saline solution infused by the veins or by hypodermoclysis or by the rectum, after a moderate bleeding, has been useful in some instances. The author gives a warning note as to using too much saline solution by the veins or too rapidly. He has seen death thus occasioned, as Tyson has also, presumably by dilatation of the right heart.

MENSTRUAL PAINS OF VIRGINS—TREATMENT.

Several days before the expected menstrual period TOUVENAINT (quoted in the *Therapeutic Review*, August, 1904) prescribes, three times daily, 15 drops of the fluid extract of senecio vulgaris in a hot infusion of lemons. As soon as the menstrual period appears the patient is put to bed, poultices containing laudanum applied to the abdomen, and suppositories containing 1-15 grain each of extract of cannabis indica and belladonna are inserted. Enemata containing laudanum are also advised, or 10 drops each of tincture of viburnum prunifolium and piscidia erythrina is given four times daily in a hot infusion. For the lumbar pains friction is used with:

Chloroform, 10 grammes;
Oil of musk,
Essence of cloves, āā 5 grammes;
Ether, 15 grammes;
Alcohol, 90 grammes.

WARTS AND MOLES—THEIR TENDENCY TO BECOME MALIGNANT.

The ordinary warts which are so common on the hands of children, and disappear, as a rule, as the child grows older, are not considered by KEEN (*Journal of the American Medical Association*, July 9, 1904), who records twenty-five cases of malignant degeneration of papillomatous growths and moles.

In certain cases, in consequence of injury, or repeated or long-continued irritation to which the warts or moles are exposed—or in other cases without assignable cause—they begin to increase in size, at which time they are already malignant growths, and should be treated as such.

When imperfectly removed, especially if they have already begun to grow, the glands soon become involved, and in a number of cases a general sarcomatosis follows. The danger of waiting until they have begun to grow, and are therefore already malignant, is shown by the fact that even after amputation of a hand

or a foot they will recur in the glands or in the internal organs.

Those which arise from warts proper are generally epithelial carcinomata. In a number of the cases reported, especially those arising from moles, the microscope examination showed that they were unquestionably sarcomata. Their clinical course and the macroscopic appearances are in favor of their sarcomatous nature.

Of the 51 cases of sarcoma reported by Wilson and Kalteyer, 69 per cent had their origin in a mole or nevus. Of the 45 cases of melanosarcoma which had occurred in the London Hospital in twenty years, which Eves collected, 33 occurred in the skin, and of the 33, 26 began in pigmented moles.

Keen emphasizes the need for excision before malignancy begins, including the skin from which they arise. The family physician is the one on whom the responsibility rests for this early removal, as he sees these patients in the premalignant stage, when removal would be easy, the resulting scar would be much less of a deformity than the existing wart, nevus, or mole, and the danger of malignant degeneration would be entirely eliminated.

The 25 cases reported arose on the wrist, sternum, ankle, scalp, toe, abdomen, scapula, the lumbar and dorsal regions of the back, the nose, vulva, elbow, and cheek.

In a number of cases the moles or warts were either congenital or had existed as long as the patient could remember. A few of them arose at about twenty years of age, a few later in life. Malignant degeneration usually began after the mole or wart had existed for thirty years or longer as a harmless deformity, only to become finally a serious menace to life, or even the direct cause of death.

EARACHE.

MAKUEN (*Pennsylvania Medical Journal,* September, 1904) contributes an exceedingly interesting paper under the above title, calling attention to the fact that earache is generally a condition far-reaching in its effect upon the function of hearing.

The common causes of earache he mentions are: foreign body in the external auditory canal, furunculosis or boils in the same region, inflammatory exudate in the middle ear, and reflected pains due to intranasal irritation, dental caries, tonsillar abscess, peritonsillar abscess, pharyngeal ulcers, and the neuralgias.

Attention is called to the fact that a foreign body sometimes becomes embedded in the tympanic cavity and gets beyond the line of vision. As a rule, when diagnosis has been made, the foreign body should be removed by the syringe. This instrument should hold at least four ounces, and should have a small nozzle, so that the stream may be directed, under the guidance of the eye with reflected light, above and behind the foreign body, the desired ear being grasped by the free hand and drawn firmly upward and backward. Instrumental attempts to remove foreign bodies from the ears of struggling children should never be made.

Furunculosis of the external auditory canal sometimes causes excruciating pain. Poultices do more harm than good. Dry heat in the form of sand-bags is serviceable. These should be made conical in shape, so that they may be inserted as far as possible in the canal, and they should be kept hot. In mild cases a 10-per-cent carbolated glycerin solution may be dropped in the ear and retained by a plug, to give relief.

Free incision in the region of the inflammation, followed by the immediate application of hot sterile water, is the most efficient way of relieving pain. Incision must be deep, and preceded by a thorough irrigation with 1:2000 bichloride solution, after which the meatus is filled with carbolated glycerin solution for a few minutes, and then packed lightly with a sterile gauze drain.

The commonest cause of earache is acute otitis media. If the symptoms are not severe, almost immediate relief may be obtained by the use of the carbolated glycerin solution. A small pencil of cotton should be made to fit into the cavity, and this should be saturated with the solution, and its tip placed in contact with the inflamed drum membrane. In mild cases of middle-ear congestion this serves to abort the disease. Should it fail, as indicated by the increased severity of the symptoms, especially the pain, the drum membrane must be incised with sufficient freedom to admit of the best possible drainage. The operation is a simple one, and can be successfully performed by the

general practitioner. The ordinary antiseptic precautions should be taken. A small-bladed, long-shanked knife is used. The incision should be made from the point of greatest bulging down to the floor of the tympanic cavity. The knife should not be driven in so far as to injure the round window. Brief general anesthesia is generally required, especially with children. In adults no anesthesia is necessary, although some degree of local anesthesia may be obtained by local applications of some solution containing cocaine.

The discharge and blood are swabbed by means of sterilized cotton pledgets. A narrow strip of antiseptic gauze is placed in the canal with its end in slight contact with the incised drum. Abundant and free dressing is applied, which is renewed as rapidly as it becomes soaked. On the second or third day the dressing is removed, and the cavity swabbed out, and a smaller dressing applied. Complete cure may be expected in from two days to two weeks. This prompt incision gives immediate relief, shortens the duration of the disease, and lessens the probability of such unfortunate complications as mastoid and intracranial disease.

LINGUAL GOITRE.

STORRS (*Annals of Surgery,* vol. xl, No. 3) describes a rare disease, which, however, he has been able to illustrate by thirty-three cases collected from literature. It is noted that it occurs oftener among women than men, which is contrasted with the accessory thyroids, which are much more frequent in men. It may occur in any period of life, but it is usually noted between the ages of fifteen and forty.

These tumors are usually placed on the dorsum of the tongue, generally just behind and below the foramen cæcum, but sometimes enclosing it in their growth, and on the median line as a rule; they are round or ovoid, and vary in size from that of a cherry to that of a man's fist. The surface of the tumor is covered with mucous membrane of the tongue. There is generally no ulceration. The troubles caused by it are purely functional, and vary in proportion to the size of the tumor.

The first symptom is generally an uncomfortable feeling at the base of the tongue, a fulness in the throat, accompanied by a frequent desire to swallow. The voice then begins to change. Deglutition may be seriously interfered with. One characteristic of lingual goitre is the occurrence of profuse hemorrhages. These occur at any time and without any apparent cause. They are unaccompanied by coughing, vomiting, or pain, and the patient is simply aware that her mouth is filled with fluid, which on expectoration proves to be blood. These hemorrhages are due to the rupture of one of the many vessels covering the mucous membrane of the growth. The tumor is painless and elastic, and usually it can be felt only by the finger placed in the mouth.

The prognosis is favorable. Treatment consists in removal. This may be accomplished by the galvanocautery loop, or by incision with enucleation. The latter method is distinctly preferable, and since the tumor is well defined and not adherent, it is accomplished readily. Enucleation through the mouth is the method usually employed. After etherization, the jaws are kept open as far as possible by means of a gag. A silk ligature is then passed through the tip of the tongue for traction, and a second ligature passed through the muscles of the base of the tongue under and below the mass of the tumor. The second ligature renders traction on the tongue quite easy, and after enucleation is of great assistance in controlling the hemorrhage and in approximating the edges of the wound. The tongue is then drawn forward as far as possible until the tumor appears between the incisors. A longitudinal incision is made in the growth, and the tumor enucleated. The redundant mucous membrane on either side of the wound is then trimmed off and the edges brought together with catgut sutures.

SURGICAL TREATMENT OF ACUTE INTESTINAL OBSTRUCTION.

BARKER (*Lancet,* Sept. 17, 1904), delivering an address upon this subject, stated his belief that too much stress has hitherto been laid upon the mere mechanical removal of the stoppage of acute intestinal obstruction, and not enough upon the removal of the putrid material killing the patient. He believes that the older method of emptying the bowel by establishing an artificial anus is unsatisfactory,

as the bowel is in a state of paresis or complete paralysis, and only expels its contents very slowly, and until it is cleaned out the cause of paralysis remains in great part.

He believes the best course in many of these cases, perhaps in all that are within reach of the procedure, is to resect the tract of paralyzed and distended bowel at once.

Regarding the after-treatment of such cases, he advises that the patients should be made to sit up from the first as much as possible, and only to lie down, preferably on one side or the other, for sleeping, so as to overcome the tendency to hypostatic pneumonia. They should begin at once to take a mixture of 10 grains of carbonate of bismuth three times daily. Albumen water, with one drachm of brandy, should be given by the mouth from the first in small quantities. Nutrient enemata and instillations under the skin of normal saline solution or 5-per-cent solution of glucose are recommended as a routine. Half a litre morning and evening may be given if necessary.

CHRONIC NON-SUPPURATIVE OTITIS MEDIA—TREATMENT.

In order that a comprehensive outline of the therapy of chronic suppurative otitis media may be presented, GOLDSTEIN (*Interstate Medical Journal*, October, 1904) makes an empirical subdivision of its stages and development as follows: the early stage, the advanced stage, and sclerosis and rarefaction of the bony capsule of the labyrinth. The earlier the treatment is begun the more prompt and effective, of course, will be the results.

As the nose and nasopharynx constitute the keystone in the pathology of the early stage, the most careful attention should be given to the treatment of this area. The first step is to treat the turgescent mucosa. For this there is applied adrenalin chloride (1:1000) by means of a cotton applicator. A recent retraction of the membrana tympani will usually yield to a few inflations of the tympanum either by the Politzer bag or a catheter. In each instance where inflation is used the membrana tympani should be carefully inspected at every sitting, before and after inflation; and each change in the hearing distance of the affected ear and the plane of the membrana tympani carefully noted. When exudation is profuse in the tympanic cavity and is not readily drained in this simple way, incision of the membrana tympani may be required. The alkaline nasal spray and saline postnasal irrigation are sometimes effective in toning down the turgescent mucosa. The nasal douche is to be discouraged. Silver nitrate (40 grains to the ounce) applied by a cotton applicator through the nose to the nasopharyngeal mouth of the Eustachian tube often has a beneficial effect; silver salts may be substituted for the more irritating silver nitrate. Protargol, in from ten- to twenty-per-cent watery solutions, has a good effect. Goldstein has always been an enthusiastic advocate of the hot unguentum petrolatum spray, used in this class of cases, with a five-per-cent campho-menthol solution, and rendered slightly astringent by a drop or two of ol. gerani rosæ. To facilitate absorption of exudate in the tympanic cavity, and to restore the membrana tympani to its normal plane, aural massage of a very mild character, and preferably by a hand masseur, is of no little value. The massage should not be continuous, but should be of about one-half minute in duration, and should consist mechanically of gentle suction to aid the newly aerated tympanic cavity to restore the membrana tympani to its normal plane.

When this middle-ear process is associated with a more advanced nasal pathology, and when hypertrophied turbinals interfere either with proper nasal respiration or with aeration of the Eustachian canal, surgical interference is called for. Septal deflections or projections and neoplasms obstructing the nasal passages, hypertrophied faucial or pharyngeal tonsils, should all receive proper attention and should be removed early in the course of the treatment.

Diathesis is an important element in the etiology, and the general condition of the patient should be given careful consideration. Tonics, alteratives, or other systemic medications are often indicated. It may be necessary to have the patient change his occupation.

The second division, the advanced stage of chronic catarrhal otitis media, includes long-standing plastic exudations and adhesions in the tympanic cavity, retraction

in the membrana tympani, and fixation of ossicles. No matter what means may be employed to loosen adhesions, permanent improvement cannot be obtained unless the exciting cause—the thickened mucosa of the nasal, postnasal, or Eustachian tract—is successfully dealt with. Inflation should be practiced regularly, daily or on alternate days, for a period of five or six weeks if necessary. Where the use of the catheter indicates that the lumen of the Eustachian tube has been impaired, excellent results may be frequently obtained by the occasional introduction of the whalebone bougie. It should be used systematically and regularly. One of proper size should be passed the full length of the Eustachian tube, and left in position for a time varying from one to ten minutes. If the patient complains of continued pain while the bougie is in position, it should be immediately withdrawn. When the bougie is withdrawn, and if there are no contraindications, thorough inflation of the tympanic cavity should follow.

The bougie should be introduced twice each week unless favorable reaction is observed. Unless the patient cannot tolerate it, the next large size bougie may be used, and this plan may be continued and the tubal canal subjected to a gradual dilatation until the diameter of the affected tube is slightly larger than the lumen of the average normal Eustachian tube.

Of the contraindications for the continued use of the bougie, perhaps the most frequent are a feeling of fulness and dulness in the ear, and an increase in the subjective symptoms.

As to massage with any of the more modern machines, Goldstein believes that as good results can be obtained with the simple hand piston pump and pneumatic speculum.

Recent fixation of the ossicles and slight adhesions may be broken up by repeated massage, whether by a hand masseur or with the electric massage pump; long-standing adhesions often resist every form of mechanical massage.

Of the operative treatment to be favorably considered, tenotomy and intratympanic severing of adhesions is the only one which has partly stood the test of time.

Of medications to the aural tract, special mention is made of a 10-per-cent solution of camphomenthol in benzoinol, a few drops of which may be injected through the Eustachian catheter and forced by compressed air into the tympanic cavity. Iodine, carbolic acid, and glycerin may be used in a similar manner.

In otosclerosis, it may be well to advise the patient that there is no beneficial form of treatment. Before making this admission, however, a careful differentiation should be made between the hypertrophic and the sclerotic forms of otitis media chronica catarrhalis.

FRACTURE OF THE ELBOW IN CHILDREN—TREATMENT.

In a lecture on fracture of the elbow in children, LAPORT (quoted in *Treatment*, October, 1904) points out that oblique fractures are on the external side, and run from above downward, and from without inward, involving the trochlea to a greater or less degree. The external fragment is carried upward and outward; an increase is noted in the transverse diameter of the elbow, with more or less swelling and ecchymosis, and abnormal movement and crepitation may perhaps be obtained. The outer fragments may undergo malposition transversely, so that the articular surface is turned forward or even upward, rendering replacements very difficult. This fracture is the origin of cubitus valgus.

In the second variety of fracture, the supracondyloid variety, a transverse fracture exists. It is often wrongly described as an epiphyseal displacement. The upper fragment projects in front and below, while the lower, with the bones of the forearm, is carried upward and backward. This fracture is not infrequently mistaken for a dislocation, and for this reason the relations of the olecranon and condyles should be carefully made out. When the upper fragment is below and behind this is called fracture by flexion, a rare variety.

The danger common to all these fractures is that of vicious union. In the majority of cases a good result can be obtained. Callus is apt to produce limitation of movement and some shortening. The latter is unimportant so far as movement is concerned, but there will probably be some alteration of axis of the upper and lower arms, giving rise to cubitus varus or valgus. Nerves—radial, median,

or ulnar—may be involved in the fracture. Treatment of these fractures is still a matter of question.

Fixing on a splint or in plaster for three weeks, and then wearing the arm in a sling, is recommended. Massage is actually harmful in these cases, owing to the readiness with which the periosteum in children throws down new bone. Occasionally putting up these fractures in a position of forced flexion produces beneficial results.

CANCER FACTS AND CANCER FALLACIES.

SNOW (*Lancet,* vol. clxvii, No. 4229) calls attention to the progressive increase in mortality from cancerous disease in all civilized communities, citing as a proof thereof a formidable array of figures. A careful analysis of the figures, however, would probably show that there is less than seems apparent at first glance.

As to his fallacies, he seems grieved that the public credit the medical profession with complete ignorance, and utter incompetence to eradicate it surgically or to ameliorate it medicinally.

It is noted that the idea of cancer being an inherited malady has long since been disproven.

Mr. Haviland has attributed to towns situated on rivers that periodically overflow their banks a special proclivity to cancer. This, however, is not borne out by an investigation of such towns. Nor does cancer show any relation to any condition of soil, climate, or food, excepting alcohol.

DECAPSULATION OF THE KIDNEYS.

Upon the basis of investigations conducted to determine the cause of the puzzling cures and improvements following renal decapsulation, THELEMAN (*Post-Graduate,* vol. xix, No. 10) concludes that a new capsule is formed in a relatively short time—on the one hand from the remnants of the old capsule left at the operation, and the septa radiating into the kidney parenchyma, and on the other hand from the fat capsule.

Decapsulation exerts upon the renal parenchyma no destructive influence worthy of mention. As to whether the operation favorably influences the clinical features of the disease, a transitory improvement, depending upon the temporary relief of tension, is of course plausible. Experiments thus far conducted on dogs, however, have not demonstrated an increase of vascularity in the new capsule, and as the former anatomical conditions have been restored even after fourteen days, it is very questionable whether a permanent cure can be obtained in man.

The clinical results thus far obtained are by no means unassailable. The severe cases operated upon by Edebohls died; the mild ones have been improved, and some have recovered. At all events, the question whether the mild cases might not also have been cured without operation is admissible. Finally, the injurious effects caused by chloroform narcosis should also be borne in mind.

MORTALITY FROM PUERPERAL SEPSIS.

COWEN (*Intercolonial Medical Journal of Australasia,* vol. ix, No. 8) contributes some interesting statistics on this topic. In the first place he criticizes Dr. Gallibin, who, while proving a satisfactory improvement in the general mortality from puerperal sepsis in the period from 1881 to 1900, neglects to note that there is a decline in the birth-rate for London of 17 per cent. Williams's recent contribution ends with the statement that "we are still face to face with the fact that the childbirth mortality has not at all diminished within the last twenty years." At the Rotunda, for 1900-1901, in 610 confinements, there were but three deaths, only one of which could be fairly assigned to the obstetric practice of the Institution. At the British Lying-in Hospital, during thirteen years (1880 to 1892), in 4948 cases, there were 10 deaths from septic causes, or a rate of 2 per 1000. At the same institution, for the eleven years 1893 to 1903, there were only three deaths from septic causes out of 5766 cases, or a death-rate of .5 per 1000.

In the Woman's Hospital of Sydney there were in the last ten years 3891 cases attended by officials of that institution, and not one single death from sepsis, the total mortality from childbirth in the state having been reduced one-half by the practice of the hospital.

Jardine, dealing with the practice of the Glasgow Maternity Hospital for the period of thirty years from 1869 to 1898,

states that the death-rate from septicemia, among out-patients, fell from 1 in 475 in the first decade to 1 in 1440 in the third—these results being obtained under the most hopeless of general conditions.

Among other results are quoted those at Queen Charlotte's (outdoor), .5 per 1000; British Lying-in (outdoor), .10 per 1000; the whole collected from nearly 30,000 cases. In these latter institutions the women are attended in their own homes by trained and skilled midwives. These results have been obtained by rigid adherence to definite rules. The individual should recognize that he cannot hope to accumulate an experience which will justify the methods which have led to results such as these. The immunity from disaster which a less rigid regard for detail has met, it may be in 9 cases out of 100, has fostered the idea that fatal puerperal sepsis is purely a question of luck. This can no longer be maintained, since each case may be the hundredth fatal one.

RED LIGHT TREATMENT OF SMALLPOX.

RICKETTS and BYLES (*Lancet*, vol. clxvii, No. 4229), prompted thereto by some enthusiastic reports concerning its efficacy in the treatment of smallpox, gave a trial of the red light method, but with unsatisfactory results.

The treatment did not prevent fever or suppuration. Patients subjected to the treatment were badly scarred. Even when the treatment is begun early it wholly fails to prevent or to check the normal development of the lesions.

SEMINAL VESICULOTOMY.

FULLER (*Post-Graduate*, vol. xix, No. 10) has performed up to date 33 cases of vesiculotomy without a single death for the cure of seminal vesiculitis and its complicating lesions.

The operation does not leave the sexual function crippled, but rather, by repairing the existing lesion, serves to restore the function of the seminal vesicles and in that way to improve or restore the sexual function. In the majority of instances where the male sexual function is crippled, the trouble lies in a diseased condition of the seminal vesicles. After seminal vesiculotomy the line of incision into the sac closes spontaneously, just as does the incision into the bladder following cystotomy, and after the incision has so closed the power to ejaculate returns. The operation does not cause sterility.

In the performance of the operation great care must be exercised not to wound the rectal wall, the urethra, the bladder, the ureter, and to a less degree the peritoneum.

The operation is not advisable, of course, in tubercular cases.

BUNIONS AND HALLUX VALGUS—SURGICAL TREATMENT.

When the painful symptoms of either bunions or hallux valgus are present to such an extent as to cause nearly continuous suffering, and a constant impediment to locomotion, the demand for operative interference, according to KELLER (*New York Medical Journal and Philadelphia Medical Journal*, Oct. 15, 1904) is imperative. This author uses an operation which eliminates all interference with the tripod of the foot or its normal level, and with satisfactory results in the four cases reported. The danger of ankylosis is comparatively slight, and the operation can be used when the normal arch of the foot is high; the old operation can be done with safety only when the deformity is complicated by flatfoot.

Operation.—A longitudinal incision, two inches in length, is made along the inner side of the foot, exposing the first metatarsophalangeal articulation. The skin and tissues over the head of the metatarsal bone are retracted; the joint is then opened, and opposing articular ends are separated; the periosteal covering over the lateral enlargement and adjoining part of bone are pushed back; and the exostosis with about one-eighth of an inch of the bone is removed by a rongeur forceps, or preferably with a small saw. The tendon of the flexor longus hallucis is freed by blunt dissection from the under surface of the base of the first phalanx, sufficiently to pass a Gigli saw around the bone; the periosteum is pushed back, disarticulation accomplished, and the articular head of the first phalanx is removed. Particular care should be taken throughout the operation to protect the periosteum from needless destruction, and an effort should be made to preserve enough of it to cover the exposed surface of the bone.

A small gauze drain is inserted between the head of the metatarsal bone and the sawed end of the phalanx (this drain is removed after forty-eight hours). The wound is carefully sutured, the toe being maintained at normal extension by a narrow internal lateral splint. Passive motion is begun on the fifth day.

NERVE BLOCKING TO PREVENT AMPUTATION SHOCK.

GESSNER (*American Medicine,* Sept. 24, 1904), stimulated thereto by Cushing's and Crile's admirable study of the blocking effect of cocaine injections against the development of shock from peripheral trauma, injected one grain of cocaine into the sciatic and internal saphenous nerves during the course of an amputation at the middle third of a thigh. He noted that there was complete absence of shock.

WOUNDS OF THE HEART.

Including one case of his own STEWART (*American Journal of the Medical Sciences,* September, 1904) has been able to collect 60 cases of wounds of the heart which have been operated upon, with 38 1/3 per cent of recoveries.

Wounds of the heart may be produced by penetration from without, as by gunshot or stab wounds, or by fractured ribs, and by foreign bodies from the esophagus, stomach, or bronchus. The heart may burst as the result of blunt force to the thorax or epigastrium with or without laceration of the pericardium, and it may rupture spontaneously (disease of myocardium or coronary artery, neoplasms, gummata, echinococci, abscess, aneurism, etc.).

Of the cases recorded, 55 were stab wounds, and 5 gunshot wounds. Two of the gunshot wounds recovered; in two of the fatal cases the posterior wound was not sutured. As late as 1903, however, Wolff advised expectant treatment for wounds of the heart.

The symptoms are those of acute anemia or of compression of the heart, depending upon the escape of blood into the pleural cavity or externally, or upon its retention in the pericardium. In some cases the patient may walk or even run for a considerable distance before falling to the ground. On the other hand, a patient may present marked symptoms without serious injury. In any case there may be nervous symptoms, such as vertigo, syncope, convulsions, vomiting, or hemiplegia. The nervous phenomena are said to be more common in injuries to the left ventricle, and to be due to anemia of the spinal cord. Respiratory difficulties are more marked in wounds of the right ventricle, but may be due to nervous influences, pneumothorax, or compression of the heart. Hemoptysis is rare, even if the lung is injured.

When the blood escapes into the pleural cavity (the pleura was injured in 57 of the 60 cases), there will be in addition to the symptoms of anemia the signs of a pneumohemothorax. Palpation may detect the apex beat. A splashing sound indicates blood and air in the pericardium. A whizzing sound, due to the presence of air in the pericardium, is also described. In some cases a friction sound may be heard, and in others a bruit not unlike that heard over an aneurism. The heart is apt to be irregular, and in many cases the pulse is below 100.

When the bleeding is external, the stream may be continuous or in jets. Slight increase in cardiac dulness is to be expected. The respiration may be quiet until the end, and physical examination of the lung may reveal little abnormal.

When the blood is confined to the pericardium the pulse is exceedingly feeble, and the apex beat can neither be felt nor heard. There may be a splashing sound, disappearing with the filling of the pericardium, at which time the area of precordial dulness will be vastly increased. The patient is unconscious, and may regain his senses on providing an exit for the blood. Cohnheim demonstrated by animal experiments that the pressure manifested itself first on the auricles and the origin of the great veins, producing venous stasis; this may increase to complete obstruction to the flow of blood, and is manifested by dyspnea and cyanosis. The ventricles pump themselves dry, and the heart finally stops.

Death ensues as the result of anemia, compression of the heart, or later from sepsis or functional incompetence. Izzo reports a case of stab wound of the left ventricle which was discharged cured on the twenty-eighth day. A few hours later

the patient died while lifting a heavy body, the scar having ruptured. The possibility of embolism from air or clot should also be thought of.

A diagnosis of injury to the heart may be difficult or impossible without exploration. Of the external wounds in the 60 cases, 39 were on the left side between the second and seventh ribs, sternum, and anterior axillary line, two were in the left midaxillary line, two to the right of the sternum, one in the epigastrium, one under the left costal arch, and 15 not mentioned. Any penetrating wound in the precordium is almost sure to injure the pericardium or the heart. External bleeding may be profuse and spurting from a wounded intercostal or internal mammary, or may be absent in a punctured wound of the heart. Although justified by Rehn, the use of the probe is condemned generally.

Of the 60 cases, the left ventricle was wounded 30 times, with 15 recoveries; the right ventricle 21 times, with seven recoveries; the right auricle once, resulting in death; the apex three times, with one recovery; and in four the chamber wounded is not known. The size of the wound in the heart muscle varied from 0.5 to 7 centimeters. The only safe procedure in doubtful cases is to enlarge the wound, ascertain if it penetrates the chest wall, and if there be symptoms of hemorrhage or "heart tamponage," to operate.

The time elapsing between the injury and the operation is not given in 29 of the 60 cases, 11 of which recovered. Of the remaining cases, 21 were operated upon within the first four hours, with six recoveries, and nine after four hours, with six recoveries—a mortality of over 76 per cent for those operated upon within four hours, and a mortality of 30 per cent for those after four hours. In looking over the causes of death in these cases, and leaving out of consideration two cases in which the interventricular septum was cut, it may be noted that of the cases operated on within four hours 35 5/7 per cent died within twenty-four hours, and of those operated upon after four hours 33 1/3 per cent died within twenty-hours.

An anesthetic should always be employed unless the patient be unconscious.

The heart may be exposed by the transpleural or the extrapleural method, and various incisions have been recommended for each. By all the extrapleural methods it is necessary to form an osteoplastic flap, containing the sternum, two or more costal cartilages, and possibly two or more of the ribs. By the transpleural method the sternum is not disturbed, and the osteoplastic flap involves only the ribs and the costal cartilages.

The wound in the lung ceases to bleed, as a rule, when the lung collapses, and needs no treatment; if bleeding, it may be sutured.

The wound in the pericardium is enlarged in the axis of the heart by tearing or cutting, and the sac cleared of blood by the finger. In several of the cases attention is called to the fact that the blood coagulated behind the heart. The bleeding from the heart may be controlled by the finger, and the heart may be steadied by the fingers, by forceps, or by sling sutures. In two cases the sutures tore out. Should the heart cease to beat during the manipulation, it should be sutured quickly and massage performed.

A round-curved intestinal needle is generally recommended. Silk was employed in 26 cases with 2 recoveries, catgut in 9 with 5 recoveries, celluloid in one with recovery, and in 24 the suture material is not known. The highest number of sutures employed was eleven. Silk has the advantage of being easier to manipulate and more certain to hold. It has been proven that catgut will last long enough to repair the wound. The continuous suture is mentioned in three of the cases with two recoveries. It may be applied more rapidly than the interrupted suture, and presents fewer knots on the surface of the heart. The sutures are inserted at intervals of one-eighth of an inch deeply into the muscle, but must not penetrate the endocardium. In dogs, Sherman found it a difficult matter to penetrate the endocardium with an ordinary curved needle. After tying, the ends should be cut off one-quarter of an inch from the knot to guard against untwisting. Diastolic suture is difficult and unnecessary.

Of four cases in which the coronary artery was injured, the writer's case was the only one to recover.

Any blood which may be in the pericardium is now removed by the finger or sponge, and the pleural cavity cleared of fluid or clots. The pleura and pericar-

dium may be sutured, or both cavities may be drained.

Of the 23 cases that recovered after operation, 11 are known to have been complicated by some form of infection; in only one case is uncomplicated recovery stated. Of the 37 deaths, 16 occurred within twenty-four hours from shock and hemorrhage, and in two of these the interventricular septum had been punctured; three died on the second day, two from infection of the pleura, and one unknown; two died on the fourth day, both from infection, and in one of these the tricuspid valve had been injured; three died on the fifth day from infection, and one on the sixth, one on the fourteenth, one on the nineteenth, and one on the twenty-second day, all from infection; and in five cases the time and cause of death are unknown.

SECONDARY ABDOMINAL SECTION.

CUSHING (*Annals of Gynecology and Pediatry,* vol. xvii, No. 9) divides secondary abdominal section into the immediate, which is performed for acute affections, and the remote, which is performed for the relief of chronic conditions, even after a lapse of years since the original operation.

The immediate operations are required on account of hemorrhage, obstruction of the bowels, foreign bodies, occlusion of the ureters, sepsis, and drainage.

The remote operations are usually required on account of adhesions, sinus, fistulæ, herniæ, and recurrence of malignant disease.

Symptoms of hemorrhage are usually clear, the principal diagnostic signs being progressive failure of the pulse and increased pallor. The abdomen must be reopened at once. If the bleeding be due to oozing from a raw surface, packing must be applied, the lower part of which may be dipped in solution of adrenalin. As a means of avoiding postoperative hemorrhage, the abdomen should never be closed until the patient has been placed in a horizontal position. In early cases a glass drain placed in the bottom of the pelvis will give precious information, and if not needed can be slipped out in a few hours. Hemorrhage which occurs hours or days after operation is due to the slipping of a ligature. It is as a rule the ovarian artery which is retracted out of the grasp of the ligature. The uterina is so long and crooked that it has little tendency to retract. When symptoms of such late hemorrhage develop, the uterine stumps should be reached and clamped at once, and if the uterus is present, the end of the artery at the cornu is to be inspected. When the clots are bailed out, a large sponge is placed at the bottom of the pelvis, and the search can go on. Nitrous oxide is extremely beneficial under these circumstances, as it saves time.

In operations after vaginal hysterectomy the arteries can be clamped by the sense of touch, as the stumps are plainly perceptible. If the hemorrhage continues, the speculum can be used, and the ovarian stumps felt at the side of the pelvis. The hemorrhage which sometimes ensues on the second day after hysterectomy is venous, and is caused by the pulling apart of the walls by the adherent clamp. It can be controlled by packing with gauze soaked in tannin solution. It will not occur if the clamps are opened an hour or more before they are removed.

Probably the most frequent cause for reopening the abdomen is intestinal obstruction, which may be due to kinks, hernia between the stitches, a forgotten sponge, or paralysis of the bowel. The symptoms are vomiting, which becomes persistent and fecal, with distention, and obstinate constipation. Changes of position and gentle hydrostatic pressure are indicated. Several gallons of water containing soap and a little turpentine should be provided. If the bowels are not opened in this way, the wound should be reopened, and unless the seat of the obstruction be found at once the intestine should be received in hot, moist cloths. When the obstruction is relieved, if the bowel does not show a tendency to empty itself it should be punctured with a sharp knife, thus allowing large quantities of gas and fecal matter to escape.

The bowels are then irrigated with hot salt solution and returned.

Foreign bodies left in the abdomen may cause either sepsis or obstruction. The prognosis is not bad if the condition is recognized early, and a secondary laparotomy performed. No small pad should ever be used in abdominal operations.

If the ureters are ligated, as shown by total anuria, the wound should be opened,

the ligature removed and reapplied in such a manner that these organs are not occluded.

Secondary abdominal operation for the relief of septicemia rarely gives satisfactory results. Cases in which it is most useful are those in which there is a collection of bloody fluid which has not been virulently affected. If anything is to be done, it is to be done at once, unless the fateful rise in the frequency of the pulse is observed. If, when the abdomen is opened, there is a free escape of bloody fluid, this is a rather favorable sign. A dirty, purulent collection in the pelvis is bad, while worst of all is the absence of all apparent cause of septic conditions.

The abdomen having been opened, a large drainage-tube is slipped to the bottom of the pelvis, and irrigation with hot salt solution is made. This irrigation of the abdomen should be careful and complete.

EXOPHTHALMIC GOITRE—SPECIFIC TREATMENT.

Burghart and Blumenthal, of Berlin, mentioned by HOWELL in the *Columbus Medical Journal* for October, 1904, employ a subtractive or neutralizing method of ridding the system of an excess of thyroid secretion in exophthalmic goitre, by utilizing the milk of thyroidectomized goats. In the beginning of their treatment they used the fresh milk in dosage of one liter per day, but later they employed evaporated milk from the same animals with identical results. In all ten patients were treated, and in two the entire train of symptoms typical of the disease subsided, the eyes becoming perfectly normal. The dosage was from 5 to 50 grammes daily of the evaporated product, with no alarming symptoms from the latter dosage, except abnormal slowing of the pulse.

Howell obtained some of the preparation, and now reports a single case. The dosage used was one gramme every three hours until five doses were taken daily. Within the first three hours there was a diminution in the respiratory rate, and a slight sense of drowsiness without loss of strength, with a feeling of well-being. In twelve hours the pulse had dropped to 108; habitually it had been 120. In another twelve hours the pulse had dropped to 93, and remained between that and 96 for a week, when the supply of the preparation was exhausted.

The nervous element of the disease was kept under control, and the sleep was much more sound. The breathing was decidedly slower, and the tremor of the voice less marked. The struma was unaffected by the short course of treatment. The patient thought there was some receding of the eyes, but this was not perceptible.

DIFFUSE DILATATION OF THE ESOPHAGUS DUE TO CARDIOSPASM.

Under this title TYSON and EVANS (*New York Medical and Philadelphia Medical Journal*, Oct. 15, 1904) give the clinical history of some extremely interesting cases. The etiology of the affection is due, they explain, to degenerative changes in the vagus, or to reflex disturbances from distant foci of irritation. The affection usually occurs in neurotics from twenty to forty years of age. The onset is sudden, and is accompanied by a sensation of burning and stoppage posterior to the sternum. At first the difficulty in swallowing is caused only by solid and insufficiently masticated food, which, however, progressively increases until, at times, no food can be swallowed. At other times certain articles, such as hot liquids or ices, pass into the stomach without any voluntary exertion. At irregular intervals the symptoms may disappear entirely.

The regurgitation of food is characteristic, and occurs immediately or very shortly after eating. In advanced cases, with marked dilatation, food may be retained for many hours without causing discomfort. The esophageal food is regurgitated whenever the patient assumes a horizontal position, especially during sleep. This sign, in connection with a dry cough, which occurs at night on assuming a recumbent position, and is relieved only by regurgitation, is characteristic. There is absence of true vomiting, and inability to raise flatus. The majority of patients are able to swallow food with exertion, or by employing definite mechanical means.

The passage of an esophageal bougie eliminates the possibility of organic stricture. The uniform point at which resistance is encountered and the sudden giving way of this resistance, followed by the further passage of the stomach-tube, indi-

cate spasm at the cardia, in contradistinction to diverticulum. The emptying of fluids contained in the esophagus by the mere withdrawal of the tube from the stomach, without further manipulation, indicates a diffuse dilatation.

The chemical examination of regurgitated food shows an absence of free hydrochloric acid and pepsin, and the failure of proteid digestion and conversion of the starches into sugar. The regurgitated material from a diverticulum is usually in a more advanced stage of decomposition. There is likely to be dulness over the chest posteriorly when the esophagus is filled with liquid, and by means of a mixture of bismuth a skiagraphic picture of the size and position of the dilatation may be obtained.

As to the treatment of this condition, when patients can force food into the stomach, lavage may be indicated to combat the tendency to acute esophagitis. When total obstruction is periodical or permanent, tubal feeding is indicated. When this becomes impossible from either esophagitis or spasm, rectal feeding may be employed, or gastrostomy may be performed.

Electricity, passage of bougies, and retrograde soundings have proved unsatisfactory. The rational treatment is repeated overstretching of the cardia in order to destroy its tonicity. This may be accomplished by the dilating instrument, or by a pneumatic bag.

The prognosis as to the complete restoration of activity is bad, but the condition is not necessarily hopeless.

CHRONIC PROCTITIS AND SIGMOIDITIS.

The treatment of chronic proctitis, by which term is meant a long-continued inflammation of the rectal mucosa, extending to the underlying tissues in some cases, must vary according to the cause of the inflammation. The exciting causes are many, including intense heat or cold, traumatism, operations for piles, injection of internal piles with carbolic acid solutions, drastic purgatives, worms, indigestible foods, irritating discharges from the upper bowel, injury to the mucous membrane, and similar causes.

When the cause lies within the intestine DICKINSON (*Columbus Medical Journal*, October, 1904) prefers giving sulphate of magnesia in tablespoonful doses in a glass of hot water, repeated every three or four hours, until there are eight or ten bowel movements. After this the colon should be flushed with normal salt solution, the patient being in the knee-chest posture. The fluid can be introduced into the colon easily by means of a Wales bougie passed through the sigmoid flexure. The injection fluid should pass into the intestine slowly, and until the bowel is fully distended, and then retained, if possible, for fifteen minutes before it is expelled. Daily injections should be made thereafter, with the patient in the knee-chest posture, using one drachm ichthyol, three drachms non-alcoholic hydrastis, or ten grains protargol to two quarts warm water. If upon making a proctoscope examination numerous small bleeding points are to be seen on the mucous membrane, it can be mopped with a five-per-cent solution of silver nitrate, or an atomizer may be employed.

The bowels should be regulated if necessary with medicines in cases of constipation. Maltine and cascara, taken in sufficiently large doses to produce one good bowel movement daily, have proven satisfactory.

The diet should be mostly nitrogenous; crust of stale bread, or gluten bread, meats, fish, chicken, eggs, are all good, while potatoes should not be eaten. Small amounts of thoroughly cooked rice are permissible, as are all vegetables containing but little starch or sugar. Hot water drank half an hour before meals has a beneficial effect.

If the flatulency is great, remedies to control the fermentation must be given, as carbolic acid, salol, pancreatin, etc.

When the exciting cause is without the intestine, as a floating kidney, retroflexed uterus, or a hypersensitive appendix, one must be careful not to promise too much from the local treatments, for perhaps an operation may be necessary before the cure is accomplished. If it is an extremely chronic condition, and modern treatment has been tried without effect, then it would be perfectly proper to operate; but where the case is a subacute one, when the condition has lasted only two or three months, where no proper dietary regimen and local treatment have been carried out, all the therapeutic measures should be tried before any serious operation is under-

taken, provided life and general health are not endangered by such delay.

Some of the results obtained by the employment of electricity are remarkable, and this agent should be employed when feasible.

Where the condition is unquestionably chronic, the patient should not be promised immediate relief, for the treatment sometimes requires months if not years.

THE VALUE OF LEUCOCYTOSIS IN THE DIAGNOSIS OF INTRA-ABDOMINAL SUPPURATION.

In an editorial on this subject (from the *Medical Record,* vol. lxvi, No. 12), based upon a very careful study by Türkel (*Centralblatt für die Grenzgebiete der Medicin und Chirurgie,* Aug. 5, 1904), it is held that the negative leucocyte count should not be taken as contradicting the diagnosis of abscess. A positive result, however, affords a more certain indication of the presence of suppuration than any one other clinical sign. This applies in particular to intraperitoneal suppuration, originating in the appendix or cæcum, the reaction of the peritoneum to irritants being more rapid and well marked than that displayed by other tissues.

Contributive causes which may produce a leucocytosis must be carefully excluded; repeated leucocyte counts must be made, and leucocyte values of 20,000 or over must be taken in conjunction with other signs of inflammation of the peritoneum before attaching great weight to the white cell count.

THE USE OF CHLORIDE OF ETHYL IN OBSTETRICS.

PLAUCHU (*Annals of Gynecology and Pediatry,* No. 9, 1904) has used chloride of ethyl in forty obstetrical cases. As to the mode of administration, 10 cubic centimeters of the drug is sprayed into a compress of gauze folded in eight thicknesses. This compress is hollowed in the hand, and is placed over the nose of the patient, who is directed to take several deep breaths. In a minute narcosis is complete.

The drug was employed either as an exclusive anesthetic, or as a preliminary to a more general anesthetic. It was used alone for painful obstetrical examinations, and in formidable procedures, such as the application of forceps, the rapid extraction by breech, or version, it was followed by comfort.

OPERATIVE REMOVAL OF STONES IN THE COMMON BILE-DUCT.

During the past two months KEHR (*Centralblatt für Chirurgie,* No. 28, 1904) has performed twenty-five operations for gall-stones. In nine of the cases one or more stones were removed from the common duct.

In the cases in which the stone occupied the retroduodenal portion of the duct, Kehr first excised the gall-bladder and exposed the cystic and common ducts as far down as the duodenum, when an attempt was made to push the stone upward and remove it with suitable forceps through an incision in the supraduodenal portion of the duct. In two cases this maneuver was greatly facilitated by mobilizing the duodenum by Kocker's method.

In three cases, however, transduodenal choledochotomy had to be performed, as Kehr believes that an incision never should be made in the retroduodenal portion of the common duct. The duodenal papilla was first grasped with two forceps, then incised, and the stone removed. Kehr then introduced a pair of delicate forceps into the papillary incision through the common duct to the supraduodenal incision, where the forceps were made to grasp a small strip of moist gauze. In every case, on withdrawing the forceps and gauze, several small stones and fragments of stones, which could not be palpated nor felt with a sound, were extracted from the common duct. In one instance the swabbing was performed five times before the duct was emptied.

The operation is completed by inserting through the supraduodenal incision one small rubber drainage-tube which extends to the duodenal end of the common duct, and a second tube which runs upward to the liver. The incision in the duodenum is sutured and covered with omentum.

In each of the three cases operation consisted of cholecystectomy; incision of the cystic and supraduodenal portion of the common ducts, duodenotomy, papillotomy, swabbing of the common duct, and hepatic and common-duct drainage. The duration of the operation varied between one and one and a half hours. The three

cases in which the common duct was swabbed out made as uneventful a recovery as the remaining six cases of common-duct stone. A duodenal fistula was not observed in any of the cases.

FRACTURES TREATED BY TEMPORARY NAILING.

The bloodless reduction of fractures of the lower end of the humerus has been attended by so many difficulties, and was so frequently unsuccessful, that NIEHAUS (*Archiv für klinische Chirurgie*, Bd. 73, Heft 1) was led to reduce the fragments by open operation and secure them in position by the temporary introduction of nails. This method has been particularly serviceable in children.

With the forearm slightly flexed, and beginning at a point on the outer side of the arm about 6 or 7 centimeters above the external epicondyle, a straight incision is carried downward over the epicondyle across the joint to a point on the back of the forearm about 2 centimeters below the tip of the olecranon. The upper part of the incision exposes the humerus anterior to the triceps. Below the epicondyle the capsule of the joint is split in the direction of its fibers just posterior to the head of the radius. The anconeus muscle is split in the direction of its fibers, thereby exposing the outer surface of the ulna. The ulna is then divided above the coronoid process at right angles to the sigmoid notch by means of a chisel, care being taken to leave intact the periosteum at the inner side of the ulna. The soft parts are separated carefully from the external epicondyle, and the whole extensor mass with the attached olecranon is retracted outward and backward, thereby exposing the line of fracture. The retraction of this flap in fractures at the lower end of the humerus is rendered simpler by the periosteum and capsule having been torn loose from the posterior surface of the humerus as a result of the trauma.

Reduction of the fracture is easy even after several days. The lower fragment is secured in position by means of two nails. One nail is inserted in the groove between the capitellum and epicondyle, and is driven from below upward and from without inward through the external condyle, the line of fracture, and the distal end of the diaphysis of the humerus. The second nail penetrates the paraperiosteal tissues at a point on the mesial surface of the ulna at the same level as the line of osteotomy of the olecranon, then enters the inferior surface of the internal condyle close to the trochlea, and converges toward the first nail as it passes through the internal condyle, the line of fracture, and the lower end of the proximal fragment. Both nail heads project from the wound in the soft parts. A few sutures secure the musculo-periosteo-cutaneous flap, which incidentally holds the olecranon in position. A splint usually is unnecessary. The nails are withdrawn on the fourth to the seventh day. Even then a fixation dressing is not needed.

The nails are made from nickel-plated steel in various sizes and lengths. Two nails are used in each case in order to prevent rotation and overlapping of fragments. The final results were excellent in all cases.

With slight modifications of technique the writer has employed the same method for other fractures and after resection of the knee-joint with equally good results. The operation is technically simple and does not require much time for its performance. Union takes place more quickly than by any other method.

OPERATIVE TREATMENT OF PROLAPSE OF THE RECTUM.

BECKER (*Beiträge zur klinische Chirurgie*, Bd. 61, Heft 1) has performed Rehn's operation for prolapse of the rectum on eleven patients. A circular incision is made around the anus at the mucocutaneous junction. The mucous membrane is dissected free from the remainder of the prolapsed rectum. Five or six sutures are then introduced through the skin at the anal margin to fold up and secure the prolapsed muscular coat just within, or above, the more or less relaxed external sphincter which serves to support it. The mucous coat is then trimmed off and united to the cutaneous margin. The line of suture is covered with a thick layer of dermatol in two-per-cent boric solution. Four of the patients were adult males, and seven were children from two to four years of age, having a prolapse from 6 to 10 centimeters in length. All the cases were cured and have remained free from recurrence.

STAB WOUND OF THE HEART.

SMITH (*Southern California Practitioner,* September, 1904) reports the case of a man, aged twenty-two, who was stabbed in the right ventricle, and who was brought to the hospital thirty minutes later. At that time the radial pulse was imperceptible. Operation was at once performed.

The external wound was between the fourth and fifth ribs, two inches to the left of the sternum. The first skin incision was followed by cessation of respiration, requiring artificial measures for four minutes. Two inches of the fourth and fifth ribs were resected. Bleeding became profuse. A portion of the sternum was then taken away. The opening into the pericardium was enlarged, and then the puncture of the heart was felt. The heart was held with forceps at the edge of the puncture and the wound brought into view.

The laceration was ragged, and parallel with the heart muscle and fibers. It was closed by continuous silk suture. The pericardial sac was flushed out with normal solution, and was then closed by suture.

The operation lasted fifty minutes, and the patient during it was given normal salt solution in both thighs. As the laceration was closed a perceptible change in the radial pulse was noted.

Thirty minutes after operation the patient was fully out of the ether, and the pulse was fairly strong and regular, registering 90. Seven days after operation the patient died. Autopsy showed that the heart wound was completely closed. The cause of death was pericarditis.

TONSILLOTOMY—HEMORRHAGE FOLLOWING.

JARECKY (*Medical Record,* April 30, 1904) outlines the best methods in hemorrhage following tonsillotomy.

Wounding of the anterior pillars can always be avoided by separating them from the tonsil by means of a blunt hook, or by a knife specially made for that purpose. The bleeding from wounding the pillars is slight, but usually persistent. It may be controlled with the galvanocautery.

Ulceration is usually the cause of secondary hemorrhages. The parts, after operation, should be sprayed with some mild solution, as Seiler's, Dobell's, glycothymoline, boracic acid, etc. The feeding is very important. Nothing should be taken that will scratch the wounded surface or that is in any way difficult of digestion and liable to produce vomiting, thus perhaps reopening the closed vessels.

The best method of operating in any given case will naturally lessen the chances of hemorrhage.

In case of persistent bleeding the parts should be cleaned and a good view obtained. Separating the pillars with a bent probe discloses the character of the bleeding, whether capillary, venous, or arterial.

Locally, for mild cases, ice, a paste of tannic acid and gallic acid, or a saturated solution of adrenalin, may be employed. Internally, suprarenal extract, ergot, or gallic acid can be employed. If the bleeding is severe in an unmanageable patient, a hypodermic of morphine often acts like a charm. If one or two vessels bleed obstinately, they should be seized with a forceps or a tenaculum and twisted.

If the bleeding is from the whole surface of the tonsil or venous oozing, the Paquelin or the galvanocautery should be applied. Sometimes direct pressure with gauze-wrapped thumbs for about half an hour will stop the mischief. With some patients, highly excited from vomiting and bleeding, it is very difficult to do anything; but as soon as fainting takes place the hemorrhage ceases.

At times it may be good to promote syncope, having the patient sit or stand.

Sometimes the remaining stump can be drawn forward and encircled with a ligature, using a transfixion needle if necessary, or passing a purse-string suture around and drawing it together. A good method is to pass two ligatures from the posterior pillars, through the anterior ones, and tying each so that the tonsil is folded on itself, or else makes a good recess in which to pack gauze. The tonsil hemostat is an excellent instrument by which pressure can be made over the tonsil with one part, the other being placed at the angle of the jaw by means of a screw and left *in situ.*

Ligature has been applied to the common, internal, and external carotid with varying success, but which vessel to be tied becomes a question. The tonsillar branch of the facial artery is the vessel

most likely to produce troublesome hemorrhages. The external carotid, whose branches supply the part, would therefore be the one to tie in case such a radical expedient were needful.

As a last resort, in the rare cases in which everything has proved ineffectual, the practitioner is advised to cut down on the tonsil through an external incision, and secure the bleeding points. This is a somewhat complicated procedure.

The following points concerning tonsillotomy should not be forgotten: (*a*) Troublesome hemorrhages sometimes occur in children. (*b*) Hemorrhages happen in adults in proportion to the number operated upon. (*c*) In case of bleeding, use a good light, and clean the parts to ascertain the cause. (*d*) Anesthetize or use morphine, if necessary, to quiet the patient. (*e*) Never operate without being prepared to cope with a hemorrhage.

SYRINGOMYELIA—ALTERATIONS IN BONES AND JOINTS.

BORCHARD (*Centralblatt für Chirurgie*, No. 29, 1904) has studied the changes which took place in the bones and joints in nineteen cases of syringomyelia. Pathologically the changes are essentially the same as those in simple arthritis deformans and tabes, although clinically these diseases are dissimilar, as syringomyelia chiefly affects young individuals, and involves the upper extremities.

Destructive cellulitis leading to suppuration, and subsequent deformity of the fingers, irregular enlargements of the joints (especially of the elbow) and scoliosis from muscular relaxation, are characteristic of syringomyelia. The disturbances of sensation are present in the deeper parts to the same extent and of the same severity as on the surface. A vesicular eruption on the arms, a tendency to circumscribed gangrene, and sudden onset of edema (the latter may be followed by localized atrophy of the skin) are rather characteristic of syringomyelia. On the hand the skin often becomes greatly hypertrophied and thickened. Frequent outbreaks of subcutaneous and subfascial phlegmon, leading to necrosis, and characterized by absence of pain and slow recovery, have been noted. The muscles present dense infiltration and tend to undergo ossification. Joint changes consist of thickening of the capsule and hypertrophy of the villi. The parasynovial tissues are also thickened. The effusions into the joint are rich in fibrin, and tend to suppurate. Severe inflammations of the joint are accompanied by only slight pain. The joint cartilages become degenerated. The bones may show atrophy, or hypertrophy, or both may be present in some cases. The hypertrophic process usually predominates. The bones become abnormally soft, large effusions are usually present in the shoulder-joint, the capsule is greatly thickened and distended, and finally dislocation of the head of the humerus with shortening of the arm may occur. An enormous enlargement of the elbow-joint is one of the most striking symptoms. The condyles of the humerus are greatly thickened, while the bones of the forearm are more or less atrophied. Spontaneous dislocation of the elbow is very rare. The wrist-joint may be dislocated, with thickening of the radius and limitation of motion. In the fingers necrotic processes usually predominate, and irregular enlargements of one or all of the fingers are not uncommon.

Trauma is an important etiological factor in this affection. Borchard ascribes it to injuries of the vasomotor nerves, which in turn give rise to the trophic disturbances. Surgical treatment must be as conservative as possible. Evacuation of the articular effusion is accomplished by arthrotomy, as the fluid is too thick to flow through a hollow needle. Resection of the joint is contraindicated, as it mostly results in a flail joint. In cases which have gone on to severe suppuration, amputation should be chosen in preference to resection.

DIABETIC GANGRENE OF THE EXTREMITIES.

HILDEBRANDT (*Centralblatt für Chirurgie*, Aug. 13, 1904) reports seventeen cases of diabetic gangrene which he has observed during the past eight years. This affection resembles senile gangrene, but makes its appearance at an average age of fifty-four and one-half years, while senile gangrene on the average appears a full decade later. In diabetic gangrene the blood-vessels present marked thickening of the intima with atheromatous deposits, around which occur a cellular

exudate, increase of the elastic fibers, thickening of the media, and leucocytic infiltration. These changes cause a partial occlusion of the vessels, the complete blocking being caused by the formation of a thrombus—before gangrene develops.

In some instances the vascular changes favor the development of the inflammatory type of diabetic gangrene. After infection has gained entrance through some slight traumatism, the sugar contained in the body juices acts as a good culture medium for the bacteria. In this class of cases gangrene is preceded by an extensive phlegmonous inflammation.

Surgical treatment consists of limiting progressive inflammation by free incisions and elevation of the extremity. Moist dressings and strong antiseptics should be avoided. Dry dressings with iodoform and hygroscopic cotton should be used. Proper diet and medicinal treatment should be employed to combat the glycosuria. If amputation becomes necessary, it should be performed well above the gangrenous area. Ether anesthesia is indicated. Schleich's infiltration method of local anesthesia frequently results in a recurrence of the gangrene. Esmarch's bandage has the same objection.

In the writer's series of seventeen cases, five belonged to the inflammatory type, and twelve to the non-inflammatory type. Of five cases in which amputation of the leg was performed, two died, one being a double amputation. Of four cases of thigh amputation, two died. The prognosis is affected chiefly by the condition of the heart and the severity of the infection.

TREATMENT OF FREEZING BY SUPERHEATED DRY AIR.

STATZER (*Centralblatt für Chirurgie*, No. 34, 1904) has found that superheated dry air promotes prompt recovery from the milder lesions produced by exposure to extreme cold. In the cases in which freezing is followed by necrosis, superheated dry air tends to sterilize the necrotic mass and hasten its separation. Treatment should be employed for one-half to one hour daily for three to ten days. Recovery is more prompt and less painful than by any other method of treatment. Statzer's results confirm those previously reported by Bies, Ritter, and Haunsa.

VARICOSE VEINS—SURGICAL TREATMENT.

For the surgical treatment of varicose veins MAYO (*St. Paul Medical Journal*, September, 1904) advises the use of a vein enucleator. This consists of a one-fourth-inch ring of steel with a long handle, the whole instrument being not unlike a blunt uterine curette. He also uses a pair of long, heavy forceps which are hollowed out in each blade so as to form, when closed, a long tube about one-fourth of an inch in diameter. The vein is sought for and severed in the upper third of the thigh. The proximal end is ligated. The lower end is clamped an inch from the end, which is passed through the ring of the enucleator, or placed in the tube of the forceps, and the clamps are transferred to the end of the vein. Gentle force pushes the ring or forceps down the vein, held under tension, for 6 or 8 inches, tearing off the lateral branches. The point of the instrument is then forced against the skin from beneath, and a small incision is made through which is pushed the instrument, holding the vein like a thread in the eye of a needle. The vein loop is drawn out of the opening and also from the instrument, which is removed and rethreaded on the vein, and again forced through the new skin opening, following the vein, and is pushed down to a lower point, where another small incision is made, and the same process of removal repeated. The small lateral branches are torn off, and as a rule have enough muscle structure to close themselves. Below the knee the branches are larger and the vein is more adherent, being more superficial, so that only a short distance can be traversed. Hemorrhage is avoided by position. The leg is raised in straight or extended position and supported by the ankle in an ordinary gynecological standard. This position renders the limb partially bloodless, as well as secures elevation and accessibility of the field of operation. Should any branch cause more than momentary hemorrhage, it can be checked by packing the incision for a few minutes, or by holding a pressure pad against the skin, over the region of the bleeding vessel.

In a few cases where the veins are enormously and irregularly dilated, the stripping process is impossible through the whole extent of the saphenous. In such

the Bristol method of torsion removal of the veins by forceps through open incisions is used as an adjunct to the enucleation treatment.

Should there be a persistent eczema after a week's previous preparation, the operation is proceeded with as usual, the ulcer being excised before enucleation of the vein is begun. The ulcerated area is skin-grafted. Then the eczematous area is painted with compound tincture of benzoin, which acts as an aseptic varnish, literally sealing the surface until the incisions themselves have become sealed against infection.

The dressing is applied and the patient placed in bed with the leg slightly elevated by two pillows. In twelve days he is allowed to get up, and wears a supporting elastic porous bandage for a few months.

This method has reduced the time for operation very considerably, and has placed it in the class of relatively trivial operations, although sepsis may render it one of the most serious.

INFANTILE SYPHILIS.

Mercurial frictions, according to *Journal des Praticiens* (quoted in the *New York Medical Journal and the Philadelphia Medical Journal*, Aug. 13, 1904), are well borne by children. The Neapolitan ointment of the Codex, made as follows, is indicated:

Metallic mercury, 500 parts;
Benzoinated lard, 460 parts;
White wax, 40 parts.

M. One to five grammes to be rubbed into the skin.

For an infant the ointment should be rubbed in with a piece of flannel on a different part of the abdomen every morning. The ointment should be allowed to remain. After a month of such treatment it should be suspended for a week and then recommenced, and this procedure should be kept up for a year.

Local lesions may be treated with:

White precipitate, 3 grammes;
Petrolatum, 30 grammes.

M. For local use.

After one year's persistent treatment potassium iodide should be given—10 centigrammes daily for three weeks, ten days' intermission, then three more weeks of treatment. Every three months inunction should be resumed for two weeks.

Prophylaxis is of the highest importance, and includes the careful choice of a wet-nurse, the forbidding of kissing, and the use of cow vaccine exclusively, with aseptic instruments.

In hereditary syphilis, at the end of a year of inunction, half to one teaspoonful may be given daily of Gilbert's syrup:

Mercury biniodide, 30 centigrammes;
Potassium iodide, 30 grammes;
Distilled water, 50 grammes;
Syrup of cinchona, 950 grammes.

M. Do not filter.

At the end of the second year 20 centigrammes or 3 grains of potassium iodide may be given daily.

The liquor of Van Swieten is sometimes substituted:

Corrosive sublimate, 1 part;
Pure water, 900 parts;
Rectified spirits, 100 parts.

M. Dissolve the sublimate in the alcohol, then add the water. Dose, 10 drops daily for each month of age.

Mercurial injections are useless.

The prophylaxis of hereditary syphilis includes the treatment of parents, discouragement of marriage between syphilitics, and the nursing of the infected child by its mother, never by a nurse.

COLLARGOLUM ENEMATA.

LOEBL (*Buffalo Medical Journal*, September, 1904) finds that collargolum given by enema is no less efficacious than by intravenous injection. The intestine is not irritated, even when one-per-cent solutions are given for fourteen days, and the collargolum is almost entirely absorbed. A cleansing enema given twelve hours later brings away only a slightly blackish fluid.

Having given the enema to two dying patients, and demonstrated its absorption, the author used it in twenty-seven cases, six of which were cases of sepsis of varied origin. Of these four were cured, one was not benefited, and one died. One of the cured cases was a staphylococcemia in which other remedies had failed; and one other appeared hopeless when the collargolum was begun. The fatal case, a tubercular woman, sixty-five years old, whose condition was so desperate that the surgeon refused to operate, showed some

improvement the next day, so that a less seriously ill individual might have been saved. Out of nine cases of puerperal infection five were cured, three were not benefited, and one died. In this series one beginning parametric infiltration with irritative peritoneal symptoms underwent rapid involution, and in five other cases there was an inhibitive effect on suppuration. In one case of obstinate rheumatism, and in four cases of renal and vesical infection, there were no results. Six consumptives with rapidly progressing febrile phthisis, one of them moribund, and all of them entirely recalcitrant to every internal medication, received the enemata without special effect.

The treatment consists of giving the patient, morning and evening, an enema of one or two pints of lukewarm water. Half an hour after defecation; 7½ grains of collargolum in one-per-cent solution is administered by a funnel or syringe. This amount (1½ ounces) is invariably retained; the bowels usually move only after the cleansing clyster on the next morning. The enemata are given thus for at least eight and not more than fourteen days. No unpleasant by-effects have been observed. The author concludes that the collargolum enemata give the same results in acute infections as does unguentum Credé or collargolum intravenously. It has been effectual when joint affections or phlegmasia alba dolens had appeared.

CLEIDOTOMY.

Edgar (*American Journal of Obstetrics and Diseases of Women and Children,* July, 1904) believes that cleidotomy, or division of both clavicles in *dead* fetuses, as a preliminary to delivery of the shoulders has never taken its proper place in obstetric surgery, as a valuable means of lessening maternal morbidity and mortality. In cases of generally contracted pelvis or outlet, after the perforation and extraction of the head, this operation renders the subsequent extraction of the fetal shoulders a comparatively easy task, and quickly and completely changes the clinical picture for the better by reducing the bisacromial diameter from 4¾ inches to 4 inches.

A pair of heavy, straight or curved, obstetric scissors of the Dubois type are employed, two fingers of one hand being used to guide the blunt points to the middle of each clavicle. It is necessary, usually, to extend strongly or flex laterally the fetal head so as to give room for the use of the scissors.

INTRAVESICAL HERNIA.

Intravesical hernia consists of an invagination of the wall of the urinary bladder, produced by pressure of a peritoneal pouch filled with intestines. The invagination usually occurs at or near the attachment of the urachus, and comprises a hernial sac, hernial ring, and hernial contents. By contraction of the circular muscle bundles around the base of the hernia obstructive symptoms arise. In a case reported by Blum (*Centralblatt für Chirurgie,* Aug. 13, 1904) mild obstructive symptoms occurred repeatedly. Blum was enabled to make a diagnosis by cystoscopy. The peristaltic movements of the intestine could be observed through the invaginated bladder wall. This constitutes the only symptom by which the diagnosis can be made before operation. Intravesical hernia may be congenital or acquired.

IMPLANTATION OF SILVER FILIGREE FOR THE CURE OF LARGE VENTRAL HERNIA.

According to Perry (*Boston Medical and Surgical Journal,* July 28, 1904) the technique of implanting silver filigree for the cure of large ventral hernia is identical with that of autoplastic repair up to the point of closing the hernial opening. The omentum should then, if possible, be stitched to the margin of the hernial ring. The sac is cut away, enough being left to close over without much tension, with a continuous silk suture. The fat is then excavated to admit a silver wire pad and permit stitching its border to the muscles and fascia. This is done with a continuous silver wire suture of sufficient length to have its starting and finishing points together, thus reducing the rough points to a minimum. This completed, the skin and fat are closed over all by interrupted silkworm-gut sutures. The silver pad should overlap the margins of the opening from one-half to one inch. This plan is permissible only, and indicated only, in the classes of cases where autoplastic re-

pair is impossible for any of the following reasons: (1) The large size of the hernial opening; (2) long existing hernia; (3) atrophy through pressure and fatty degeneration of the adjacent muscular and fibrous tissues; (4) and most frequently, previous unsuccessful attempts at autoplastic repair; and (5) in fatty abdominal walls.

The writer reports two cases—the first a postoperative hernia having had an attempt at repair; the second an acquired umbilical hernia. Each was of long standing, with atrophy and thinning of the muscles and fascia, and large hernial openings. Eighteen months after operation in the first case, and fifteen months after operation in the second case, both patients were doing housework.

Close examination shows a firm, solid abdominal wall without suggestion of diastasis. The patients claim to experience no discomfort or consciousness of a foreign body in the abdominal wall, and are both enjoying life thoroughly. The operation is not difficult, and with strict asepsis should be successful.

INTESTINAL OBSTRUCTIONS FOLLOWING APPENDICEAL OPERATIONS.

McWILLIAMS (*Medical News,* Sept. 3, 1904) has collected 86 cases of intestinal obstruction following appendiceal operations. Of these 57 recovered after operation for the obstruction, and 29 died. He presents the following conclusions: (1) The rarity of intestinal obstruction is noteworthy. (2) It may follow an attack of appendicitis which has not undergone operation. (3) Obstructions may follow the "interval" operation. (4) It is most apt to follow appendicitis with abscess formation. (5) Mechanical obstruction may come on within a short time after the appendicitis operation, when the differential diagnosis from that due to peritonitis may present great difficulties. (6) Obstruction may occur years after the original attack or operation, when it may come on suddenly in perfect health, or be preceded by a period with symptoms denoting "partial" occlusion. (7) There may be several attacks of true mechanical obstruction. (8) The small intestine was occluded in all of the 50 cases where the location was noted. (9) The cause of the obstruction was given in 53 cases, as follows: Constriction by bands in 28 patients; volvuli in 10; kinkings or angulations in 11; and internal hernias in 4 cases. (10) Earlier recognition of the symptoms, and more prompt relief by operation, will materially diminish the death-rate.

TUBERCULAR ULCERS AND TUBERCULAR LYMPHANGITIS OF THE UPPER EXTREMITIES.

QUAIN (*St. Paul Medical Journal,* August, 1904) reports six cases of tubercular ulcers with secondary tubercular lymphangitis and lymphadenitis. Four of the six cases had mixed infection. The six cases represented all ages. The majority of the patients had been in close proximity to cattle prior to the infection, which took place through suppurating wounds, and was carried to the axilla through the lymphatics. In the cases of average virulence it took at least three months for the infection to reach the axillary glands. The disease was cured in the six cases by radical excision and cauterization.

Tuberculosis of the skin and superfical fascia of the extremities is not of infrequent occurrence, and the clinical history of such cases presents, in the main, similar features.

On the upper extremity the place of predilection seems to be the dorsal rather than the palmar surface of the hand, the former being more exposed to traumatism. A slight bruise becomes infected from an ordinary pyogenic organism. A small abscess develops and discharges for a short time, then granulates up, with a disappearance of the acute symptoms. If a tubercular invasion becomes superimposed upon the pyogenic infection, the tubercular process continues to burrow under the integument. After a few weeks the tissues involved break down, and a tubercular ulcer is found.

The ulcer presents a rather typical appearance. The skin overlying the ulcerative area lies below or above the level of the surrounding healthy skin, according to whether the cheesy product of degeneration is evacuated or not. The color is generally of a bluish or brownish tint. A zone of inflammation about the periphery of the ulcer is not always evident, but this area usually can be seen and felt. The edge of the skin is ragged and thin, and

on probing found to be undermined. The pale granulations at the base of the ulcer are covered with broken-down, cheesy, and necrotic masses, and a small amount of serous exudate. A mixed infection modifies the discharge according to the type of infection. The size of the ulcer may vary from the smallest sinus to large sloughing areas. In depth, it may go through the superficial fascia, but rarely involves deeper structures until very late in the disease.

A tubercular ulcer of this description may continue to spread by a gradual extension of new tubercles, and subsequent breaking down of tissue; or, more commonly, a secondary tubercular infection of the lymphatics may take place. Sometimes a whole chain of lymph-nodes are involved at once, but generally the infection progresses from one lymph-node to the next. At each station a typical tubercular process takes place. This begins with a pretubercular irritation of the lymph-node, which may be shown by some slight swelling and tenderness. Following this irritable stage come the invasion by the bacillus and the formation of tubercles. In the small affected areas degeneration soon takes place, and the numerous points of necrosis finally become confluent until a whole lymph-gland is one homogeneous, caseous, semi-solid mass. There is also present, in every case of tubercular infection of a lymph-gland, a periglandular inflammation. The lymph vessels between the glands may become involved by tubercles. This happens most frequently where a mixed infection is present.

The treatment of the writer's six cases consisted in excision of the enlarged lymph-glands, the inflamed cord-like lymphatics between the glands, and the smaller cavities which did not have a discharging sinus. These wounds were sutured and sealed. Then the ulcers were scraped out and swabbed with carbolic acid and alcohol. In two cases the ulcers were burned with the actual cautery. The granulating surfaces were skin-grafted later in one case.

Local recurrence occurred in two cases. This took place about a month after operation, and consisted in a subcutaneous extension of the disease, at the margin of ulcers which had not been sufficiently curetted and cauterized. It did not occur in ulcers which had been treated with the actual cautery. In two cases, two or three new subcutaneous tubercles developed in the arm some distance from the previous infection. After excision these did not recur. In no case was there a secondary involvement of the axillary glands after operation. After healing the scars were normal in texture and color, except in one case, where a small cicatricial keloid appeared at the elbow.

Correspondence.

LONDON LETTER.

By George F. Still, M.A., M.D., F.R.C.P.

Hematuria is so often a puzzling symptom that to most practitioners the discussion held a few days ago at the Medical Society of London is likely to be of practical interest. Dr. A. E. Garrod in his opening remarks dealt with the varied significance of this symptom. In the first place he pointed out that there are certain conditions of the urine which may easily be mistaken for hematuria; hemoglobinuria, for instance, produces the same coloration of the urine, but differs in the absence of blood-corpuscles, and therefore can only be distinguished by the microscope. Occasionally hematoporphyrinuria, which is produced by overuse of sulphonal, causes a darkened color of the urine, so that blood is suspected, but again the diagnosis turns on microscopic examination. Carboluria produces a dark, brownish color, but the microscope and the ordinary tests for blood will serve to distinguish it. Among the chemical tests for blood Dr. Garrod considered the ordinary guaiacum and ozonic ether test as particularly delicate. Coloration with extraneous pigments is also to be remembered. The case of a boy was referred to, in which a pink urine was produced, together with a story of pain which might have been renal colic, as a pretext for escaping from the tedium of an industrial school. It was discovered that this young but inventive genius kept a piece of turkey-red rag in his pocket for the purpose of soaking it in his urine and so producing the red coloration. After certain pink-colored sweets have been partaken of

freely children not infrequently show a bright pink color of the urine, recognized however by a peculiar fluorescence just like that seen in a solution of eosin.

Hematuria in infants, Dr. Garrod said, sometimes occurs as an isolated symptom, and may be associated with the presence of uric acid crystals or concretions in the urine, but a more important cause is infantile scurvy. It would probably be correct to say that in the majority of cases of infantile scurvy blood is present in the urine at some period of the disease, but often the quantity is so small that it is easily overlooked unless carefully sought. Rarely hematuria in an infant is the only symptom of infantile scurvy, and therefore in any obscure case of hematuria at this age it is advisable to try the effect of the antiscorbutic diet, orange juice, raw meat juice, or potato cream. Dr. Garrod emphasized the fact that in infantile scurvy the diet has sometimes been apparently excellent, except perhaps that the milk has been boiled or sterilized, so that even though the diet may appear to be satisfactory the antiscorbutic food mentioned should still be tried in any doubtful case of hematuria in infancy.

Hemophilia may account for blood in the urine even where there have been no other manifestations of the tendency to bleed; and it would seem that in some cases the hemorrhagic tendency is chiefly or entirely shown in bleeding from mucous surfaces, although the patient shows no special liability to excessive bleeding from skin cuts. In one case of hematuria from this cause treatment with calcium chloride was entirely ineffectual, whereas the first dose of ergot was followed by a cessation of the hematuria. The hematuria which results in some people from eating rhubarb was also mentioned, and a similar occurrence was noted after the ingestion of strawberries.

Curious cases of congenital hereditary or family hematuria have been recorded; in one family no less than twelve brothers and sisters or first cousins suffered with frequent hematuria without any apparent cause.

Lastly, reference was made to those remarkable cases with which most of us are now familiar, in which hematuria recurs perhaps for many months, sometimes with pain, sometimes without, so that renal calculus is suspected and an operation is done, but no stone is found and operation appears to have been useless, and yet from the time of operation the hematuria ceases and the patient is well. An interesting suggestion was made that in some of these cases the bleeding is due to a localized interstitial inflammation in the kidney with resulting abnormal vascularity; in one case one of the papillæ of the kidney was seen to be unduly vascular and was removed, a proceeding which was followed by cessation of hemorrhage. In London at the present time it is no great rarity to see hematuria in young men as the result of bilharzia hæmatobia contracted during the war in South Africa, the diagnosis resting on the finding of the ova in the urine.

Amongst other causes of hematuria mentioned by subsequent speakers were the oxaluria which sometimes results from eating asparagus, and the renal vascularity which sometimes results from ulcerative endocarditis even where autopsy shows that there is no infarction of the kidney.

The treatment of rheumatism is so often unsatisfactory that any hints which may make our therapeutics more effectual are of value. Dr. Tirard brought out some valuable suggestions at a recent meeting. Aspirin, which has recently been much advocated as a substitute for salicylates, has, he said, no advantage over salicylic acid; it often produces dyspepsia, makes the patient sweat profusely, and sometimes sets up diarrhea. But in gouty people aspirin will sometimes relieve their headaches; it should be given in doses of 10 grains in tablet form, for it is very insoluble in water. More effectual for the pain and stiffness which is sometimes left behind in the joints as a result of rheumatism, after all fever has gone, is mesotan, which should be painted on the skin over the joints with a brush and well diluted with olive oil without water. If it is rubbed on, or mixed with water, it is apt to irritate the skin.

At the Obstetrical Society of London during the past month a discussion was held on the causes of puerperal fever. Bacteriological evidence was brought forward to show that this condition is due usually to streptococcal infection, and it was advised that, unless there was bac-

teriological proof that some other micro-organism was the cause of the fever in any particular case, the condition should be treated as the result of streptococcal infection. Active curetting of the uterus is not advisable; the patient should receive a subcutaneous injection of antistreptococcic serum, and the uterus should then be explored with the finger, its contents cleared out, and intra-uterine douches applied. Dr. Horrocks said that in his experience the results of antistreptococcic serum in these cases were very variable; in some cases they were excellent, in others there was no effect, and there was no means of foreseeing whether the serum would do good or not. He considered the character of the discharge as very important; those with scanty, non-offensive discharge were commonly fatal, whereas with abundant, offensive discharge the patient usually recovered. Other speakers were still more doubtful of the value of antistreptococcic serum in these cases; indeed, one speaker stated that not only had he never seen any improvement result from it, but he had seen dangerous symptoms follow its use. Dr. Armand Routh thought that great benefit results from administration of the tincture of perchloride of iron in 20- to 30-drop doses every two or three hours; he also advised that after emptying the uterus its inner surface should be dabbed all over with strong iodine solution if there were any suspicion of puerperal infection.

There was some difference of opinion as to the value of curetting in puerperal fever. It was advocated on the ground that it is a much more efficient method of cleansing the uterus than could possibly be attained by the fingers. It was opposed on the ground that if the infection of the uterine wall is still superficial curetting would only facilitate deeper infection, and if the infection has already reached the deeper parts of the uterine wall curetting is wholly ineffectual.

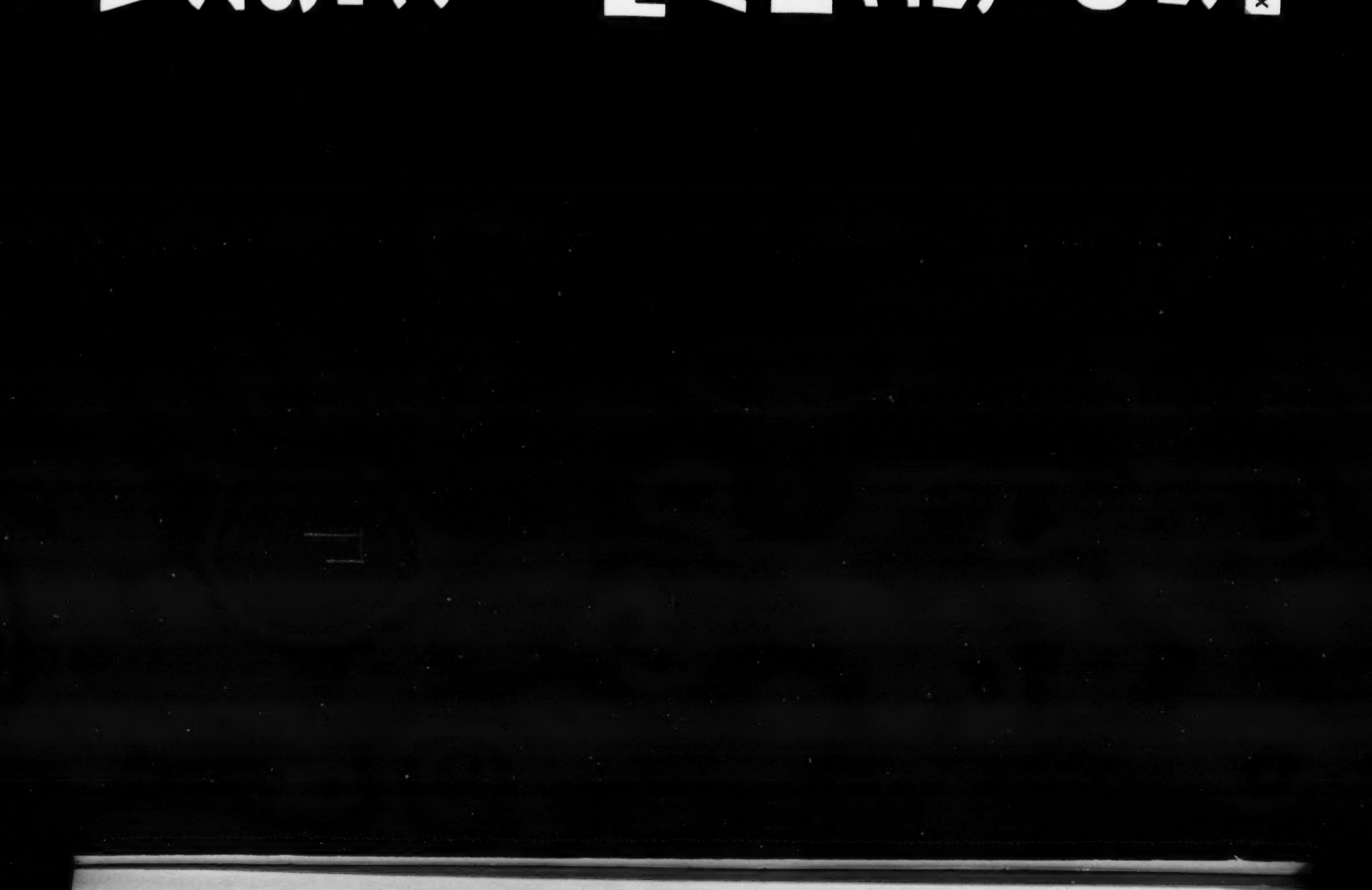
THE SEPTUM NASI AND ASTHMA.

To the Editor of the THERAPEUTIC GAZETTE.

SIR: In your valuable journal dated October 15, 1904, you give an abstract of a paper of mine, published in the *Australasian Medical Gazette* of May 20, 1904, on the relation between the nasal mucosa and the paroxysmal neuroses. Your abstract reads as if I were the originator of the practice of cauterizing the mucous membrane of the septum nasi in cases of asthma. As it happens, I have never yet cauterized the septum nasi for asthma or any other paroxysnal neurosis, not because I do not believe in the treatment (which I do, thoroughly), but because I am strongly of opinion that this powerful therapeutic measure should, for the present at any rate, remain in the hands of rhinologists, or of those who have some special training in the all-important technique.

The practice of cauterizing the *healthy* septum nasi for asthma is due altogether to Dr. Alexander Francis, late of Brisbane, now of London, and is fully described in his work on "Asthma in Relation to the Nose," published last year. My part was purely that of an outsider. Dr. Francis took the widely accepted view that the mechanism of the asthmatic paroxysm consists in constriction of the bronchioles by means of their own muscular fibers; hence he naturally inferred that cauterization of the septum nasi influenced asthma favorably through increasing the stability of the respiratory center. I pointed out that if this view were correct, cauterization of the septum nasi would be applicable to asthma alone, whereas if, as I had argued in a series of papers contributed to the *Australasian Medical Gazette* in 1893, entitled "The Mechanism of the Paroxysmal Neuroses," asthma was simply one member of a long series of vasomotor neuroses, all more or less closely allied in their mechanism, then cauterization of the nasal mucosa would probably have much wider therapeutic potentialities. This anticipation has been to some considerable extent borne out. Several cases of angina pectoris, a few of epilepsy, and at least one of typical migraine can now be quoted by Dr. Alexander Francis and Dr. W. N. Robertson in which cauterization of the septum nasi has been followed by distinctly favorable results. These will no doubt be published later.

I am, etc.,

FRANCIS HARE, M.D.,
Late Consulting Physician Brisbane General Hospital, Inspector-General of Hospitals for Queensland.

LONDON, ENGLAND.